ENVIRONMENTAL ASSESSMENT

Proposed Construction of

A New Fitness Center Facility

Maxwell Air Force Base, Gunter Annex
Montgomery, Alabama

April 2003

42d CONS/LGCM
50 LeMay Plaza South
Maxwell AFB, Alabama 36112-6334

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FINDING OF NO SIGNIFICANT IMPACT

PROPOSED CONSTRUCTION OF A NEW FITNESS CENTER FACILITY AT MAXWELL AIR FORCE BASE, GUNTER ANNEX MONTGOMERY, ALABAMA

AGENCY: United States Air Force

PURPOSE: The 42d Air Base Wing (ABW) at Maxwell Air Force Base (MAFB), Montgomery, Alabama has proposed to construct a new fitness center at the Gunter Annex to rectify deficiencies at the existing fitness center.

PROPOSED ACTION: The proposed action is to construct a new fitness center of approximately 4,700 gross square meters in place of the existing fitness center (building 800) at MAFB-Gunter Annex. The existing fitness center is undersized, outdated, and has structural/mechanical deficiencies that contributed to a determination that the existing program requirements are 44% deficient when compared with the USAF Fitness Facilities Design Guide.

The proposed site of the new fitness center facility is about five hundred feet east of the existing fitness center, between the existing center and Turner Boulevard. A basketball court, racquetball court and four tennis courts currently occupy the proposed site and will have to be demolished to allow for construction of the new facility. The new fitness center facility will consist of a lobby, administrative areas, support areas, locker rooms, a gymnasium, group exercise areas, fitness equipment areas and racquetball courts. It will be a steel frame structure supported on a reinforced concrete foundation with masonry exterior walls, a standing seam metal roof, fire protection, HVAC, electrical and plumbing systems and connections to existing utilities.

Construction activities will include site work, construction of the building and construction of a parking lot. After the new fitness center facility is completed and occupied the existing fitness center, Building 800, will be demolished.

SUMMARY OF FINDINGS: The Environmental Assessment (Attachment) provides an analysis of the potential environmental impacts resulting from implementing the proposed action. Ten resource categories were evaluated to identify potential environmental consequences: air quality, water resources, land use, hazardous materials and wastes, utilities, cultural resources, noise, biological resources, geological resources and transportation. Evaluation of the proposed action indicates that the affected environment would not be significantly impacted by proceeding with the proposed construction projects.

Air Quality: There would be no long-term increase in mobile or stationary source emissions at the installation due to the proposed action. Short-term emission sources would include construction activities and fugitive dust from demolition and construction operations. Dust emissions produced during demolition and construction operations would be reduced by employing dust minimization practices. Implementation of the proposed action will not lead to an exceedance of de minimis thresholds and estimated criteria pollutant emissions will not violate National Ambient Air Quality Standards (NAAQS). Therefore, no significant impacts to air quality will occur as a result of implementation of the proposed action.

Water Resources: Construction and demolition activities will result in a temporary increase in total suspended particulate matter to nearby surface water. Because construction will require the disturbance of more than one acre, a Notice of Intent under the general Alabama storm water discharge permit will be filed with ADEM. Additionally, the contractor will be required to develop a storm water pollution prevention plan for the project (USAF, 2001). The incorporation of best management practices for sediment control during construction and demolition activities will minimize potential water quality issues during construction. Because there are no identified wetlands on MAFB-Gunter Annex no wetlands will be impacted by the proposed action. Therefore, no significant impacts to water resources will occur as a result of implementation of the proposed action.

Land Use: The proposed action complies with existing base land use guidelines. The proposed site is in an area that has been previously disturbed by base development; therefore little, if any natural habitat exists. Use of the site selected for the proposed action is in accordance with the adopted Comprehensive Plan for MAFB-Gunter Annex and all project components will be designed and sited to be compatible with existing base land use. The proposed action will be centrally located within the Community Commercial Services land use zones, thereby maintaining the functional relationship among community facilities. The site will be easily accessible to all family housing areas and within walking distance of the majority of the troop housing and community support areas. The site is also accessible to military personnel residing in the civilian community. Therefore, no significant impacts to land use will occur as a result of implementation of the proposed action.

Hazardous Materials and Wastes: The proposed action is not expected to have an impact on the management of hazardous materials at MAFB-Gunter Annex and the proposed new fitness center will not be considered a generator of hazardous materials or hazardous wastes. Construction activities associated with the proposed action would require the use of certain hazardous materials such as paints, welding gases and solvents. Quantities of products containing hazardous materials used during construction of the fitness center will be minimal and their use will be of short duration. The Contractor will be responsible for the proper management of hazardous materials and waste during the construction work, including asbestos and lead paint associated with demolition of the existing fitness center (building 800). IRP site ST-004 is located on or in the vicinity of the proposed

construction site. Review of documents describing the investigations completed for the ST-004 site indicate that the underground pipelines associated with the AVGAS distribution system may extend into the area of the proposed action. Although the pipes have been drained and filled with cement grout the possibility exists that contaminated soils and groundwater may be present in the vicinity of the pipelines. Plans should be developed in advance of construction to provide contingencies in the event that the pipelines or contaminated soil/groundwater are encountered. This should include studies to determine if petroleum contamination is present on the site of the proposed action and if so, an assessment of risks and development of mitigation strategies.

Utilities: The increase in utility usage associated with the proposed action is projected to be less than one half percent of MAFB-Gunter Annex 2001 usage. No daily limits are placed on MAFB-Gunter Annex consumption of potable water, electricity and natural gas and local utility companies have adequate capacity to accommodate the projected increases. Therefore, no significant impacts to utilities will occur as a result of implementation of the proposed action.

Cultural Resources: The proposed construction will take place in an area previously disturbed by urban development. No archeological sites or architectural resources are known to exist at, or in the vicinity of, the proposed action. In addition, the Alabama State Historic Preservation Office concurs that the proposed action would have little effect on any known cultural resources listed or eligible for the National Register of Historic Places. Therefore, no significant impacts to cultural resources will occur as a result of implementation of the proposed action.

Noise: Noise levels associated with operation of the new fitness center will be minimal and similar to those of the current fitness center. Noise levels within and adjacent to the project construction and demolition area will increase during the construction and demolition period. However, since construction and demolition activity will be limited to daytime hours and will occur for a defined period of time, long-term noise impacts are not expected. Therefore, no significant increase of noise will occur as a result of implementation of the proposed action.

Biological Resources: The proposed action will occur in an area of MAFB-Gunter Annex that is improved and has been previously disturbed. There are no wetlands within the boundary of MAFB-Gunter Annex. Furthermore, according to the USFWS, there are no endangered, protected or threatened species occurring in, on, or near the proposed site. Therefore, no significant impacts to biological resources will occur as a result of implementation of the proposed action.

Geological Resources: The site of the proposed action has been disturbed by previous construction and has no unique geologic features or geologic hazards. Ground surface disturbance will occur during the course of construction however soil erosion and sedimentation from construction and demolition activities will be minor because sediment and erosion measures will be implemented. Therefore, no significant impacts to geological resources will occur as a result of implementation of the proposed action.

Transportation: Implementation of the proposed action will result in minor temporary increases in daily traffic volumes on MAFB-Gunter Annex and in the vicinity during construction. Because the new facility will be constructed very near to where the existing facility is located and will have the same general access routes traffic circulation will not be significantly impacted and may be improved because the new facility is being constructed in a more accessible area. Traffic associated with construction and operation of the new fitness center will constitute only a small portion of the existing regional and installation traffic volume. Therefore, no significant impacts to transportation will occur as a result of implementation of the proposed action.

Public Review and Interagency Coordination: The EA and FONSI were placed in the City of Montgomery Public Library and the AU Library for a 30-day public comment period. No comments received. Based on the provisions set forth in the Proposed Action, all activities were found to comply with the criteria or standards of environmental quality and coordinated with the appropriate Federal and State agencies.

FINDING OF NO SIGNIFICANT IMPACT: After review of the EA (Attachment) prepared in accordance with the requirements of the National Environmental Policy Act, Council on Environmental policy Act, Council of Environmental Quality regulations, and 32 Code of Federal Regulations Part 989, as amended (U.S. Air Force Environmental Impact Analysis Process), I have determined that the proposed action will not have a significant individual or cumulative impact on the quality of the human or natural environment and, therefore, an Environmental Impact Statement does not need to be prepared.

JOHN A. NEUBAUER
Colonel, USAF
Commander, 42d Air Base Wing

6 APRIL 04
Date

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SECTION 1 PURPOSE OF AND NEED FOR THE PROPOSED ACTION

1.1 BACKGROUND

Maxwell Air Force Base is a United States Air Force Base (AFB) under the Air Education and Training Command (AETC). Maxwell AFB (MAFB) currently occupies approximately 2,475 acres of land in Montgomery County in Central Alabama. Gunter Annex (MAFB-Gunter Annex) is located approximately six miles northeast of MAFB and contains approximately 365 acres. It is bounded by U.S. Highway 231 to the north, by the Gunter Industrial Park to the east, by residential and commercial property to the south, and by the Alabama Department of Environmental Management (ADEM) and a tributary to Galbraith Mill Creek to the west (Figure 1-1).

The War Department purchased Montgomery's municipal airport for use as Gunter Annex in 1940. During that time MAFB-Gunter Annex served primarily as a basic flying school. By 1949 flying activities were being phased out and in 1971 the runways and flying fields were closed. MAFB-Gunter Annex's mission has since focused on training and educational activities. MAFB and MAFB-Gunter Annex are headquarters to Air University (AU) and the 42d Air Base Wing (42 ABW). The 42 ABW's primary mission is to provide support to AU, the Air Force's professional military education center.

The MAFB-Gunter Annex fitness center, located at 175 W. North Drive, was sited and built in 1943. It has served as the chief facility for base personnel's required and recreational fitness needs. A facility assessment of the fitness center performed in February 2000 determined that the existing program requirements are deficient when compared with the USAF Fitness Facilities Design Guide. To remedy the noted deficiencies the Air Force proposes to construct a new fitness center that will meet the fitness needs of base personnel.

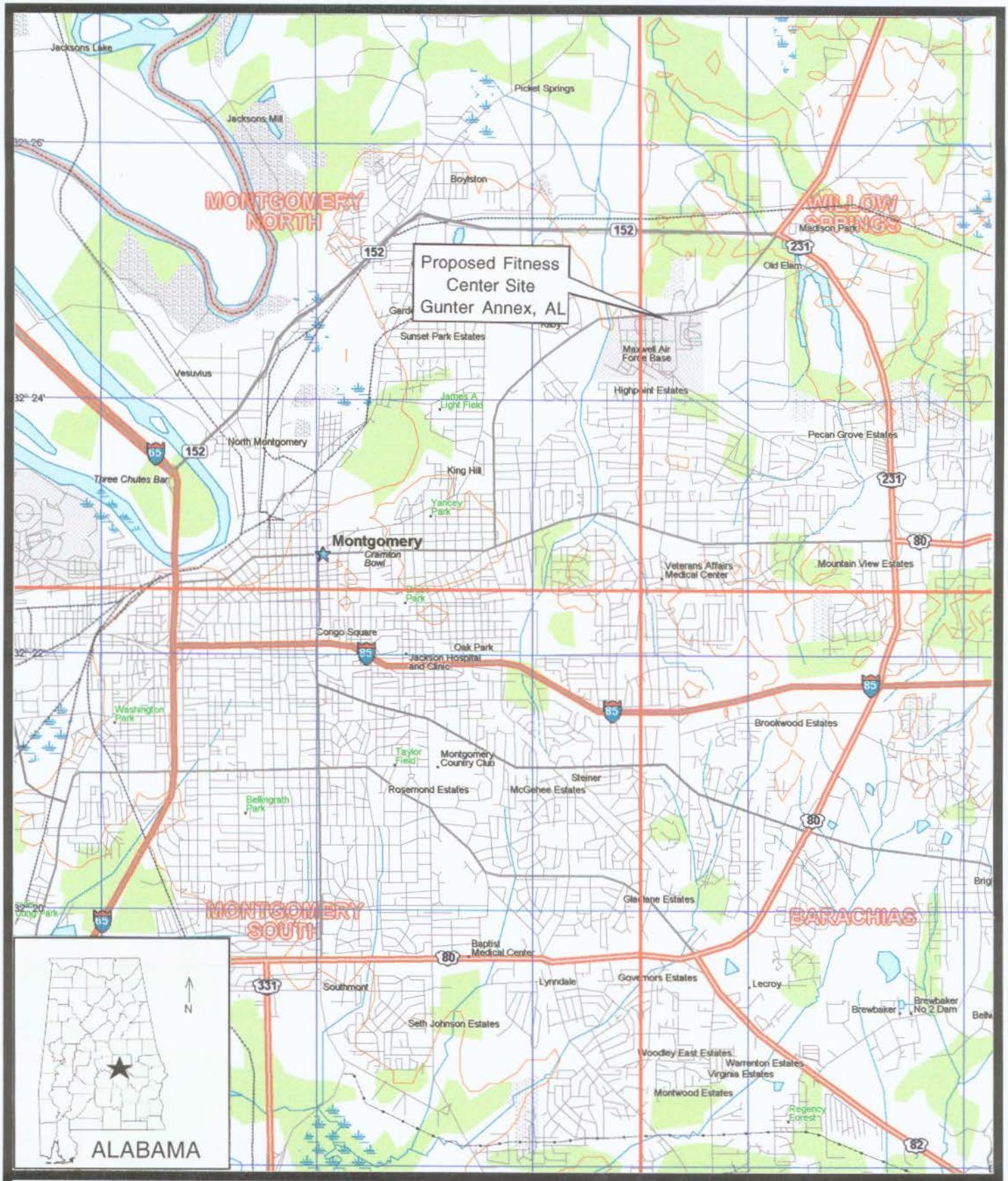
1.2 LOCATION OF THE PROPOSED ACTION

The site of the proposed construction is about five hundred feet east of the existing fitness center, between the existing center and Turner Boulevard (Figure 1-2). A basketball court, racquetball court and four tennis courts currently occupy the proposed site and will have to be demolished to allow for construction of the new facility. After construction of the new facility Building 800, the old fitness center facility, will be demolished.

1.3 DECISION TO BE MADE AND THE DECISION MAKER

The decision to be made with respect to the proposed action is whether a new fitness center facility will be constructed at MAFB-Gunter Annex. The purpose of this Environmental Assessment (EA) is to evaluate the potential impacts that implementation of the proposed action will have on the natural and built environment.

The decision to approve the proposed action begins at MAFB with the Wing Commander. Should the proposed action receive a favorable endorsement from the Wing Commander it will be presented to Headquarters AETC for review and approval or disapproval.



Environmental Assessment
Proposed Fitness Center Site
MAFB - Gunter Annex
Montgomery, Alabama

Figure: 1-1
Regional Location Map

Taken from:
USGS 7.5 minute quadrangles
Scale: 1:75,000

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Figure 1 - 2 Site Map
Maxwell Air Force Base - Gunter Annex, AL

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1.4 SCOPE OF THE ENVIRONMENTAL REVIEW

The Environmental Assessment (EA) analyzes the potential environmental impacts of the proposed action and the alternatives. Environmental media and other resources assessed in this EA for potential impact include: air quality, water resources, land use, hazardous materials/wastes, pollution prevention, utilities, cultural resources, noise, biological resources, geological resources and transportation. If the analyses presented in this EA indicate that implementation of the proposed action would not result in significant environmental impacts, a Finding of No Significant Impact (FONSI) will be prepared. A FONSI briefly demonstrates why a proposed action would not have a significant effect on the environment and why an Environmental Impact Statement (EIS) is unnecessary. If potentially significant environmental issues result that cannot be mitigated to insignificance, an Environmental Impact Statement will be required, or the proposed action will be abandoned and no action taken. Based on the analysis of the EA, the Air Force will either prepare a FONSI, or recommend preparation of an EIS.

1.5 REGULATORY REQUIREMENTS

The National Environmental Policy Act of 1969 (NEPA) was enacted to protect, restore and enhance the environment through well-informed Federal decisions. To that end NEPA requires Federal agencies to consider the potential environmental consequences of the decisions they make.

NEPA also established the Council on Environmental Quality (CEQ) and tasked it with implementing and overseeing policies relating to NEPA compliance. The document *Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act* (40 CFR 1500-1508) was issued by CEQ in 1978 and requires that environmental assessments be prepared to briefly provide sufficient analysis and evidence to determine if a FONSI is appropriate for a proposed action or whether preparation of an EIS is required.

Because a number of governmental agencies have responsibility for the various environmental issues that could be impacted by a proposed action NEPA and CEQ require intergovernmental agency notifications before making an assessment of potential impacts. Through the process of Interagency and Intergovernmental Coordination for Environmental Planning (IICEP) the USAF notifies relevant federal, state and local agencies of the proposed action, allows them to make known any environmental concerns they may have and incorporates those concerns in the assessment process.

Guidance for Federal agency compliance with environmental regulations is provided by the Environmental Impact Analysis Process (EIAP) as set forth in Air Force Instruction 32-7061, which implements NEPA, CEQ regulations, and Department of Defense (DOD) Directive 6050.1, July 30, 1979.

SECTION 2 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

2.1 INTRODUCTION

Section two describes the proposed action and alternatives to the proposed action, including the no-action alternative. It includes a discussion of the formulation of alternative actions, including the proposed action and those eliminated from further consideration. The proposed and alternate actions are described and a comparison matrix is provided to summarize the environmental effects of each.

2.2 HISTORY OF THE FORMULATION OF ALTERNATIVES

A facility assessment of the Gunter Fitness Center Facility, Building 800, performed in February 2000 by Hellmuth, Obata and Kasssabaum, Inc. for the Headquarters, Air Force Service Agency determined that the existing program requirements are 44% deficient when compared with the USAF Fitness Facilities Design Guide. The report of that assessment presented alternative actions that address some or all of the noted deficiencies.

2.3 IDENTIFICATION OF ALTERNATIVES ELIMINATED FROM FURTHER CONSIDERATION

The Hellmuth, Obata and Kasssabaum assessment considered the alternative of renovating and expanding the existing facility to address the deficiencies that had been identified. This option included complete renovation of the existing facility's infrastructure and functional spaces and construction of a 930 gross square meter addition to meet programmatic requirements.

This alternative was eliminated from consideration because analyses determined that the cost of the required renovation and expansion work would exceed 70% of the cost of constructing a new fitness center. Additionally, portions of the existing facility would have to be closed to military personnel for periods of time to accommodate construction activities during the renovation and expansion project and it is likely that after completion of the renovation and expansion work some circulation and adjacency issues will still remain.

2.4 DETAILED DESCRIPTION OF THE PROPOSED ACTION

The proposed action is to construct a new fitness center facility at a site that is about five hundred feet east of the existing fitness center, between the existing center and Turner Boulevard. A basketball court, racquetball court and four tennis courts currently occupy the proposed site and will have to be demolished to allow for construction of the new facility.

The new fitness center facility will incorporate approximately 4,700 square meters of gross area and consist of a lobby, administrative areas, support areas, locker rooms, a gymnasium, group exercise areas, fitness equipment areas and racquetball courts. It will be a steel frame structure supported on a reinforced concrete foundation with masonry exterior walls, a standing seam metal roof, fire protection, HVAC, electrical and plumbing systems and connections to existing utilities.

Construction activities will include site work, construction of the building and construction of a parking lot. After the new fitness center facility is completed and occupied the existing fitness center, Building 800, will be demolished.

2.5 DESCRIPTION OF THE NO-ACTION ALTERNATIVE

The No-Action alternative would maintain the existing fitness center operating as it currently does at a 44% deficiency. Physical conditioning and recreational programs will continue to be limited due to space restrictions; adversely affecting the morale, well being and retention rate of assigned military personnel. Deficiencies in all core areas will continue to make difficult the facilitation of readiness, fitness and morale of military members. Testing, training, team and individual sports will be hindered due to inadequate areas.

2.6 COMPARISON MATRIX OF ENVIRONMENTAL EFFECTS OF PROPOSED ACTION AND NO-ACTION ALTERNATIVES

Table 2-1 summarizes the potential environmental effects, including cumulative effects, of the proposed action and the no-action alternative upon the resource areas analyzed in this environmental assessment. The effects are described in Section 4. The table shows that the proposed action would have no appreciable effects on the resource areas that are addressed in this assessment. The table also shows that the no-action alternative will have no effects on the addressed resources.

Figure 2-1 Photograph of proposed site of New Fitness Center Facility
(looking north with main gate on right and commissary parking on left)

Table 2-1 Summary of Impacts

Resource	Proposed Action	No Action
Air Quality	Air emissions from construction activities would be temporary and localized near the construction site. The proposed action is in conformity with the Clean Air Act and implementing regulations.	No change from baseline
Water Resources	Best management control practices for erosion and sediment control would be utilized during construction, minimizing potential impacts on water quality. There would be no change in operations that would affect water quality.	No change from baseline
Land Use	The project is consistent with existing and future land use.	No change from baseline
Hazardous Materials/Waste	A survey and analysis of suspected hazardous materials must be completed before demolition. If necessary, proper abatement and/or disposal procedures outlined by the EPA, the State of Alabama and OSHA must be followed.	No change from baseline
Pollution Prevention	The proposed action will comply with the MAFB-Gunter annex pollution prevention management action plan that is under development.	No change from baseline
Utilities	Minor increases in utility usage would occur as a consequence of the proposed action. Utility consumption may increase 125%-200% over existing fitness center usage.	No change from baseline
Cultural Resources	There will be no impact to cultural resources.	No change from baseline
Noise	Construction noise would be temporary and localized. Noise levels would not adversely affect exposed individuals.	No change from baseline
Biological Resources	No significant native vegetation, sensitive plant communities, wetlands, or threatened or endangered plant and animal species would be affected.	No change from baseline
Geological Resources	Construction techniques and erosion control measures would minimize the potential for erosion.	No change from baseline
Transportation	Minor increases in average daily traffic and slight degradation in circulation may occur during construction. Circulation should improve after construction.	No change from baseline

SECTION 3 AFFECTED ENVIRONMENT

NEPA, CEQ regulations, and Air Force Instruction (AFI) 32-7061 require the Environmental Assessment process to focus on those resource areas that are potentially subject to environmental impacts with a depth of focus commensurate with the anticipated level of the impacts.

This section describes environmental resources and conditions most likely affected by the proposed action and alternatives described in Section 2 and provides a framework for understanding the potential direct, indirect and cumulative effects of the proposed and alternative actions.

3.1 AIR QUALITY

3.1.1 Definition of Resource

The primary federal regulations relating to air quality and air pollutants are established under the Clean Air Act of 1970 (CAA). The CAA has provided the framework for the U.S. Environmental Protection Agency (USEPA) to establish the National Ambient Air Quality Standards (NAAQS) for pollutants in ambient air; set strict emission limits from new sources, and established national emission standards for hazardous air pollutants. The CAA also mandated that individual states develop a State Implementation Plan (SIP) for the achievement and/or maintenance of the NAAQS within that state, and required development of special programs to prevent the significant deterioration of air quality in areas that already have achieved the NAAQS.

The USEPA has designated air quality control regions (AQCR) and evaluated whether each ACQR meets both the federal primary and secondary NAAQS. Primary air quality standards are set at levels to protect public health, whereas secondary air quality standards are set at levels to protect public welfare. NAAQS criteria have been established for the following pollutants: sulfur oxides (SO_x) measured as sulfur dioxide (SO_2), nitrogen dioxide (NO_2), carbon monoxide (CO), ozone (O_3), particulate matter equal to or less than 10 microns in aerodynamic diameter (PM_{10}), and lead. Alabama has adopted the federal NAAQS as its state standard.

Montgomery County is currently in attainment for all standards. Section 176(c) of the CAA states that no federal department or agency shall support or approve any activity or action that does not conform to an approved SIP or federal implementation plan in a maintenance or non-attainment area. On November 30, 1993, the USEPA established final rules on conformity of general federal projects. A separate rule addressed transportation programs developed under the Federal Transit Act. The general conformity rules, included in 40 Code of Federal Regulations (CFR) Parts 6, 51, and 93, apply to areas that are non-attainment or maintenance for the NAAQS. A SIP for Alabama has been adopted and submitted to the USEPA, but has not yet been approved.

3.1.2 Existing Conditions

3.1.2.1 Climate

The climate of Montgomery County is characterized as humid subtropical, with rainfall occurring throughout the year. The average annual temperature is 65° F. July is generally the hottest month with an average high of 93° F and an average low of 71° F. January is generally the coolest month with an average high of 58° F and an average low of 36° F. An average of 55 inches of precipitation is recorded annually. Precipitation generally occurs in all months, ranging from an average of about 2.5 inches in October to about 6.5 inches in March. (NOAA, Dannelly Field Records, 1971-2000) The annual average wind speed in Montgomery is 6.6 miles per hour (mph) with March having the highest monthly average of 8.3 mph and August having the lowest of 5.2 mph. (NOAA, 2001)

3.1.2.2 Regional Setting

MAFB-Gunter Annex is located in Montgomery County, Alabama, within Air Quality Control Region (AQCR) 58 (The Columbus [GA] – Phenix City [AL] Interstate AQCR). All of Montgomery County is in attainment or unclassified for all of the NAAQS (USEPA 2002a). No Prevention of Significant Deterioration (PSD) Class I arrears are located within the vicinity of MAFB-Gunter Annex (USEPA 2002b).

3.1.2.3 Air Emissions Inventory

The 2000 Air Emissions Inventory (AEI) categorizes emissions from all stationary sources at MAFB-Gunter Annex (Table 3-1). Primary stationary sources include emissions from boilers, furnaces, and small hot water heaters used for heating purposes and power production. MAFB-Gunter Annex is not considered a major source of emissions under the CAA Title V permit program (Maxwell AFB 2001a).

Table 3-1 2001 Actual Stationary Emissions at MAFB-Gunter Annex (tons/year)

Pollutant	Actual Emissions (Tons/year)
PM_{10}	0.4
Sulfur Dioxide	0.1
Nitrogen Oxides	5.3
Carbon Monoxide	3.7
Volatile Organic Compounds	17.5
Total Hazardous Air Pollutants	2.1

Source: MAFB 2001a.

3.2 WATER RESOURCES

3.2.1 Definition of Resource

Water resources are generally divided into two broad categories; surface water and subsurface water. Surface water includes lakes, ponds, rivers, and streams. Subsurface waters are commonly referred to as groundwater and are generally associated with aquifers; the geologic formation through which the water flows. Surface water bodies are typically recharged by direct precipitation and runoff from adjacent watershed areas. Groundwater is typically recharged by

surface infiltration after precipitation events and by surface water bodies. Surface and subsurface waters are withdrawn for domestic, agricultural, and industrial purposes.

3.2.2 Regulatory Issue

The Clean Water Act (CWA) of 1972 is the primary Federal law that protects the nation's waters, including lakes, rivers, aquifers, and coastal areas. The primary objective of the CWA is to restore and maintain the integrity of the nation's waters.

EPA has delegated National Pollutant Discharge Elimination System (NPDES) permitting for point and storm water discharges to the state of Alabama. Individual and general storm water permits require the permitee to develop and implement a pollution prevention plan to monitor discharges for specific pollutants. The state of Alabama uses a multifaceted approach to monitor the surface waters, including fixed station ambient monitoring, reservoir water quality monitoring, water quality demonstration studies, intensive surveys, a fish tissue monitoring program, and compliance monitoring of effluent discharges (ADEM, 1994).

3.2.3 Existing Conditions

3.2.3.1 Surface Water

A 2,000-foot section of the MAFB-Gunter Annex western boundary is bounded by the Three Mile Branch Creek. This tributary is a perennial stream that flows north to join Galbraith Mill Creek and then eventually discharges into the Alabama River. The surface drainage patterns on MAFB-Gunter Annex are generally from northeast to southwest towards Three Mile creek. A majority of this surface water flows into municipal underground drainage ways outside of the installation after being collected in surface drains on MAFB-Gunter Annex (MAFB 2000a). Due to the predominance of impermeable surfaces located throughout MAFB-Gunter Annex, localized ponding occurs briefly during major rain events. There are no permanent surface water bodies located within the boundaries of MAFB-Gunter Annex (MAFB 2002a).

Storm water runoff from MAFB-Gunter Annex enters upstream of Alabama Department of Environmental Management (ADEM) ambient monitoring station A-1a of the Alabama River. Ambient monitoring at station A-1a indicates the Alabama River fully supports aquatic life uses.

No portion of the proposed fitness center site is located within an identified 100-year floodplain zone (MAFB 2002a).

3.2.3.2 Groundwater

The prominent aquifer systems at the MAFB-Gunter Annex area are, from shallowest to deepest: the Eutaw, Gordo, and the upper and lower Coker aquifers. The Eutaw consists of upper and lower zones of marine sand separated by a zone of clay. The formation ranges in thickness from about 200 to 400 feet where the entire formation is present. The lower part of the formation consists of 30 to 50 feet of glauconitic sand interbedded with sandy clay. The middle part consists of 50 to 150 feet of calcareous clay and sandy clay. The upper part consists of as much as 150 feet of massive glauconitic sand interbedded with calcareous sandstone and sandy

limestone. The Gordo consists of a basal zone of gravelly sand overlain by alternating lenticular beds of sand and varicolored mottled clay. The Gordo ranges in thickness from about 100 feet at outcrops to more than 300 feet in the subsurface. The Gordo formation is a major source of water for the City of Montgomery. The Coker formation, which ranges in thickness from less than 100 feet to more than 1,000 feet, consists of a basal zone of non-marine gravel, sand and clay and an upper zone of marine sand and clay beds. In most areas the basal zone is separated from the marine sand beds by at least 50 feet of clay. A clay zone that is usually present at the top of the Coker acts as a confining layer between the overlying Gordo formation. Both the basal zone and the upper zone are tapped by wells in the City of Montgomery. MAFB-Gunter Annex has no production wells used for human consumption and receives it water supplies from the municipal water authority (MAFB 1996a).

The surficial groundwater resources at MAFB-Gunter Annex are highly responsive to surface water conditions because the soils are extremely permeable at shallow depths (3 1/2 to 40 feet below ground surface [bgs]) (MAFB 2002a). Installation water level measurements indicate that groundwater flow varies across the installation, from a westerly flow in the western portion near Three Mile Branch Creek to a north and northwest flow in other sections of MAFB-Gunter Annex (MAFB 2001b). At depths ranging from 10 to 27 ft bgs, groundwater occurs a MAFB-Gunter Annex under unconfined conditions in the recent alluvium and the Pleistocene Terrace deposits. Recharge occurs by precipitation falling on any exposed portions of the surface and from the terrace deposits at higher elevations. MAFB-Gunter Annex is located in the recharge area of this surficial aquifer.

3.3 LAND USE

3.3.1 Definition of Resource

Land use describes the natural conditions and/or prevalent human activities occurring at a particular location. Human activity related land use categories include residential, commercial, industrial, transportation, communications and utilities, agricultural, institutional, recreational, and other developed use areas. Management plans and zoning regulations determine the type and extent of land use allowable in specific areas and are often intended to protect specially designated or environmentally sensitive areas.

3.3.2 Existing Conditions

3.3.2.1 Regional and Local Land Use

MAFB-Gunter Annex is located in Montgomery County, Alabama, south of the foothills of the Appalachian Mountains. It is located in the northeast section of the City of Montgomery, approximately five miles from the downtown area. To the east of the installation is Gunter Industrial Park, which is zoned Light Industrial. This park was developed on the original Montgomery Municipal Airport site, which, along with the current installation property, was the site of the Army Air Corps Basic Flying Training School during World War II. To the south, single-family residences are the principal land use, with Residential zoning. This residential area extends to the Atlanta Highway, which is a major thoroughfare approximately 1.3 miles from MAFB-Gunter Annex. To the west of the installation are properties owned by the State of

Alabama, Alabama Power Company and the Alabama Nation Guard. To the north, directly across U.S. Highway 231, is a mix of undeveloped land and commercial and industrial uses (MAFB 1993).

3.3.2.2 Installation Land Use

Historical and proposed land use development at MAFB-Gunter Annex is presented in the MAFB-Gunter Annex Comprehensive Plan (MAFB 1993). This plan established goals, policies, and criteria that drive decisions regarding timing, placement, and priority of identified development needs. A major goal of the plan is to improve operational efficiency and base functionality pursuant to the mission of Air University and tenant organizations.

Land Use Inventory

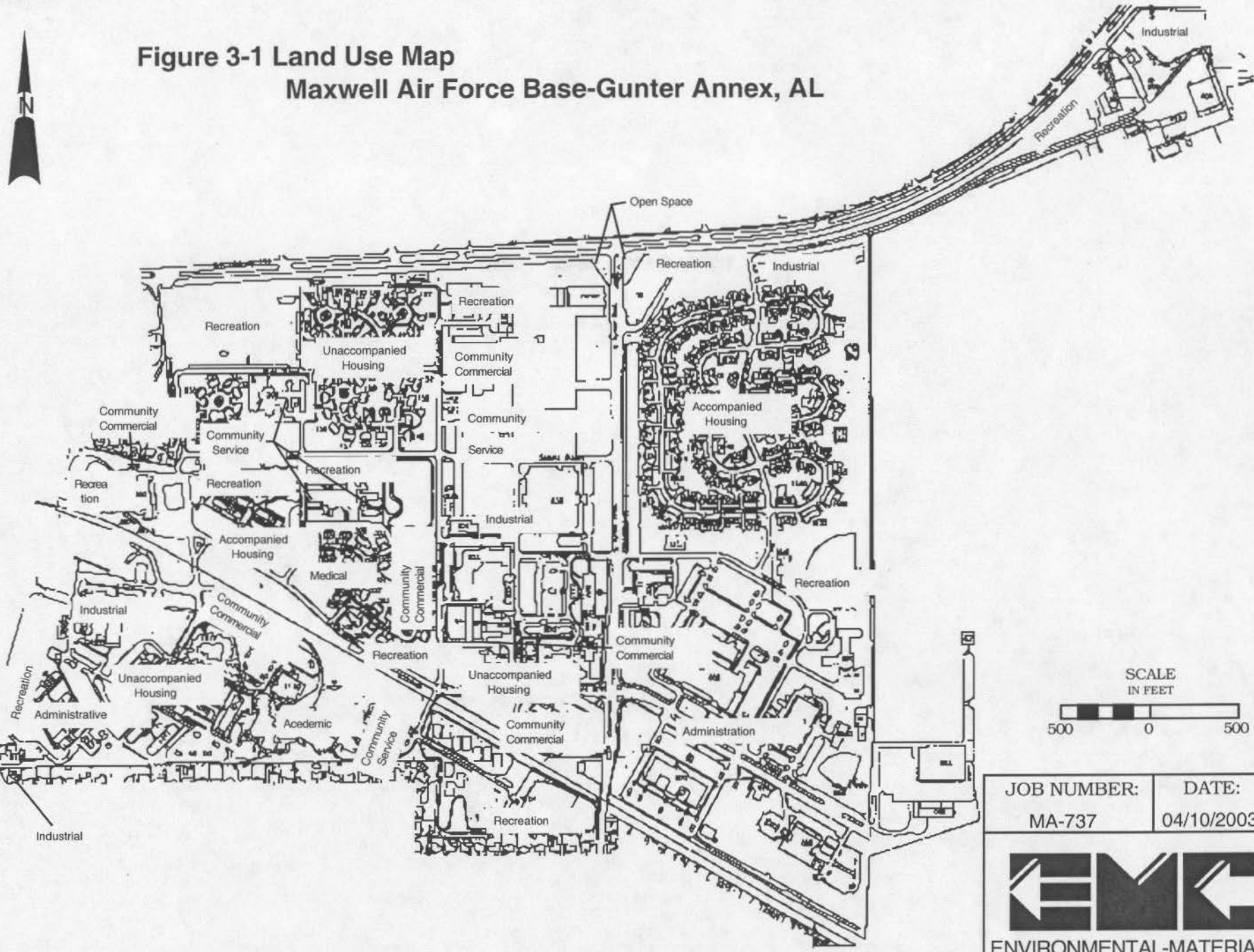
Land use at MAFB-Gunter Annex can be divided into ten categories, which are classified and defined in detail in the MAFB-Gunter Annex Comprehensive Plan (Table 3-2). Figure 3-1 outlines existing land used at the installation using this classification system.

Table 3-2 MAFB-Gunter Annex Land Use Inventory

Land Use Category	Total Acres	Percent of Total Acres
Academic	6.0	1.8
Administrative	58.0	17.5
Community Commercial	27.7	8.4
Community Service	2.5	0.7
Accompanied Housing	74.3	22.4
Unaccompanied Housing	13.2	4.0
Industrial	34.1	10.3
Medical	0.62	0.2
Open Space	67.8	20.5
Recreation	46.7	14.1
Total	**330.9**	**100**

Source: MAFB 1993. Note: Acreage calculations exclude roads.

Figure 3-1 Land Use Map
Maxwell Air Force Base-Gunter Annex, AL



Land Use and the Noise Environment

Land use activities most sensitive to ambient noise are residential, public services, commercial, and cultural and recreational. Noise generated from roadway traffic represents the greatest contribution to the overall noise environment at MAFB-Gunter Annex. Construction activities also contribute to the overall noise environment; however, construction activities tend to be temporary and associated noise can be reduced with special equipment and scheduling restrictions. The land immediately surrounding MAFB-Gunter Annex is not in conflict with the noise levels generated by installation activities.

3.4 HAZARDOUS MATERIALS AND WASTES

3.4.1 Definition of Resource

Hazardous materials are those substances defined by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as amended by the Superfund Amendments and Reauthorization Act and the Toxic Substances Control Act. Hazardous wastes are defined by the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA), which was amended by the Hazardous and Solid Waste Amendments (HSWA). In general, both hazardous substances and hazardous wastes include substances that, because of their amount, concentration, physical and chemical characteristics, or infectious characteristics, may represent a substantial danger to public health or welfare when released into the environment or otherwise improperly managed. Executive Order 12088 requires that necessary actions be taken for the prevention, management, and abatement of environmental pollution from hazardous materials or hazardous waste due to federal facility activities (USAF, 1995).

The Environmental Protection Agency (EPA) has delegated the responsibility of enforcing RCRA Subtitle C (40 CFR Parts 260 through 270) regulations to the Alabama Department of Environmental Management (ADEM) and is accomplished pursuant to Alabama Hazardous Waste Management Regulations. Alabama Hazardous Waste Management Regulations apply to hazardous waste management at MAFB-Gunter Annex and require that hazardous waste be handled, stored, transported, disposed of, or recycled in compliance with applicable regulations.

The U.S. Air Force, through AFPD 32-70, *Environmental Quality,* establishes the policy that the Air Force is committed to environmentally sound practices including: cleaning up environmental damage from past activities; meeting all environmental standards applicable to present operations; planning future activities to minimize environmental impacts; managing responsibly the natural and cultural resources it holds in public trust; and eliminating pollution from its activities wherever possible. AFPD 32-70 and the Air force Instructions (AFI) series 32-7000 incorporate the requirements of all Federal regulations, DoD Directives, and other AFIs for the management of hazardous materials and hazardous wastes.

3.4.2 Existing Conditions

3.4.2.1 General Information

The Environmental Flight at MAFB (42 MSD/CEV) is responsible for the management of hazardous material and waste for the entire installation, including MAFB-Gunter Annex. A Hazardous Materials Pharmacy has been instituted to oversee, and to the maximum extent possible, minimize the procurement, use, and disposal of hazardous materials. MAFB, including MAFB-Gunter Annex, qualifies as a large quantity generator of hazardous waste under the Resource Conservation and Recovery Act (RCRA). There is one Hazardous Waste Manager assigned to the 42 MSD/CEV and all matters concerning hazardous waste are managed through his office. Disposal of hazardous waste is arranged through a Defense Reutilization Marketing Office (DRMO) service contract wherein licensed hazardous waste contractors remove and dispose of the wastes and DRMO maintains all hazardous waste documentation in accordance with pertinent regulations. 42 MSD/CEV has developed guidance documents and/or management plans for hazardous materials, hazardous wastes, asbestos, lead-based paint, pollution prevention and solid waste at MAFB-Gunter Annex.

The primary types of hazardous waste generated at MAFB-Gunter Annex include medical supplies, adhesives, paint-related wastes, solvents, batteries, contaminated absorbents from spill cleanups, oil filters, and corrosive liquids. The existing fitness center does not routinely generate hazardous waste; however, household cleaning products which are stored and used within the facility may be or contain hazardous substances. Such products, if spilled or otherwise unintentionally released, could be categorized as hazardous waste. Asbestos-containing materials, mercury lamps, PCB ballasts and lead-based paints are also likely to be present in the existing fitness center building.

3.4.2.2 Installation Restoration Program

This section describes activities in the vicinity of the proposed action that are part of the MAFB-Gunter Annex Installation Restoration Program (IRP). The status of environmental restoration and associated compliance programs at Maxwell/Gunter is documented in the *Installation Restoration Program Management Action Plan* (MAFB 2001b). The IRP is managed by a Project Team. The team is led by the IRP Remedial Project Manager (RPM) from the 42 MSD/CEV and includes representatives from EPA Region IV and the Alabama Department of Environmental Management (ADEM).

The IRP requires each DoD installation to identify, investigate, and clean up hazardous waste disposal or release sites. According to the MAFB IRP MAP (MAFB 2001b), MAFB-Gunter Annex has twelve IRP sites and five in-use underground storage tanks (USTs). The majority of IRP sites at MAFB-Gunter Annex have been identified during military construction activities. Generally areas of contamination were encountered during excavation operations or abandoned fuel pipelines were encountered and damaged during excavation activities, resulting in a release. Table 3-3 lists the MAFB-Gunter Annex IRP sites and their current status.

Two of the IRP sites at MAFB-Gunter Annex are of interest in assessing potential impacts associated with the proposed action because of their proximity to the preferred construction site. They are: ST-004, the AVGAS Distribution System; and ST-003, the LUST Site at former Building 813. (Figure 3-2)

Table 3-3 Status of IRP Sites on MAFB-Gunter Annex

Site ID No.	Description	Status
LF-001	Landfill No. 1	RI/FS[1]
SD-001	Base wide Surface Drainage	RI/FS
SS-001	Playground Spill Site	RI/FS
SS-002	New CE[2] Complex Spill Site	NFRAP[3]
SS-004	Base Housing/Industrial Area Contaminated Groundwater	RI/FS
SS-005	Site of Former Building 847 and Building 848, Print Plant	RI/FS
SS-006	Site of Former Building 503, Contaminated Groundwater	RI/FS
ST-001	Site of Former Building 408 LUST[4]	NFRAP
ST-002	Site of Former Building 701 LUST	NFRAP
ST-003	Site of Former Building 813 LUST	RA[5]
ST-004	AVGAS[6] Distribution System	NFRAP

Source: (MAFB 2001b)

Notes: [1]RI/FS—Remedial Investigation/Feasibility Study [2]CE—Civil Engineering
[3]NFRAP—No Further Remedial Action Planned [5]RA—Remedial Action
[4]LUST—Leaking Underground Storage Tank [6]AVGAS—Aviation Grade Gasoline

ST-004: AVAGAS Distribution System

In 1943, an extensive underground aircraft fuel system was installed at MAFB-Gunter Annex to support flight operations. The original Aviation Grade Gasoline (AVGAS) distribution system consisted of at least six 25,000 gallon USTs, 2,000 feet of 6-inch waterline, 2,000 feet of 3-inch fuel line, and numerous associated valves, hydrants, and components located in the central portion of MAFB-Gunter Annex. The system originated in a grassy field, which is now in the area where West Moore Drive and Butler Avenue intersect. The pipelines ran east for approximately 300 feet, then turned north and ran approximately 1,700 feet, ending east of building 811 (Figure 3-2). For IRP management purposes, the Air Force divided the AVGAS System into two separate sites: ST-004 (referring to the pipeline system) and SS-001 (sometimes identified as the 'Playground Spill Site' and referring to the site of six 25,000 gallon fuel USTs) (MAFB 1996b).

In 1991, environmental investigation was begun to determine the location of the AVGAS System. Several site investigations were conducted, and it was determined that portions of the system have been removed, including the six 25,000-gallon USTs, but that most of the distribution system remains, including the pipelines and other distribution components.

In 1995, a secondary investigation on ST-004 was conducted. The investigation used the techniques of soil gas sampling, lithologic data logging, and groundwater sampling to determine the nature and extent of soil and groundwater contamination associated with the AVGAS distribution system. Trace amounts of VOCs, TRPH, and lead were detected in both the soil and groundwater samples, but none of these compounds were detected above the respective maximum concentration levels (MCLs) for water, or above the ADEM action level of 100 parts per million (ppm) for TRPH in soil. Samples collected from the 6-inch pipeline, however, suggested the presence of residual fuel in the pipeline (MAFB 1996b).

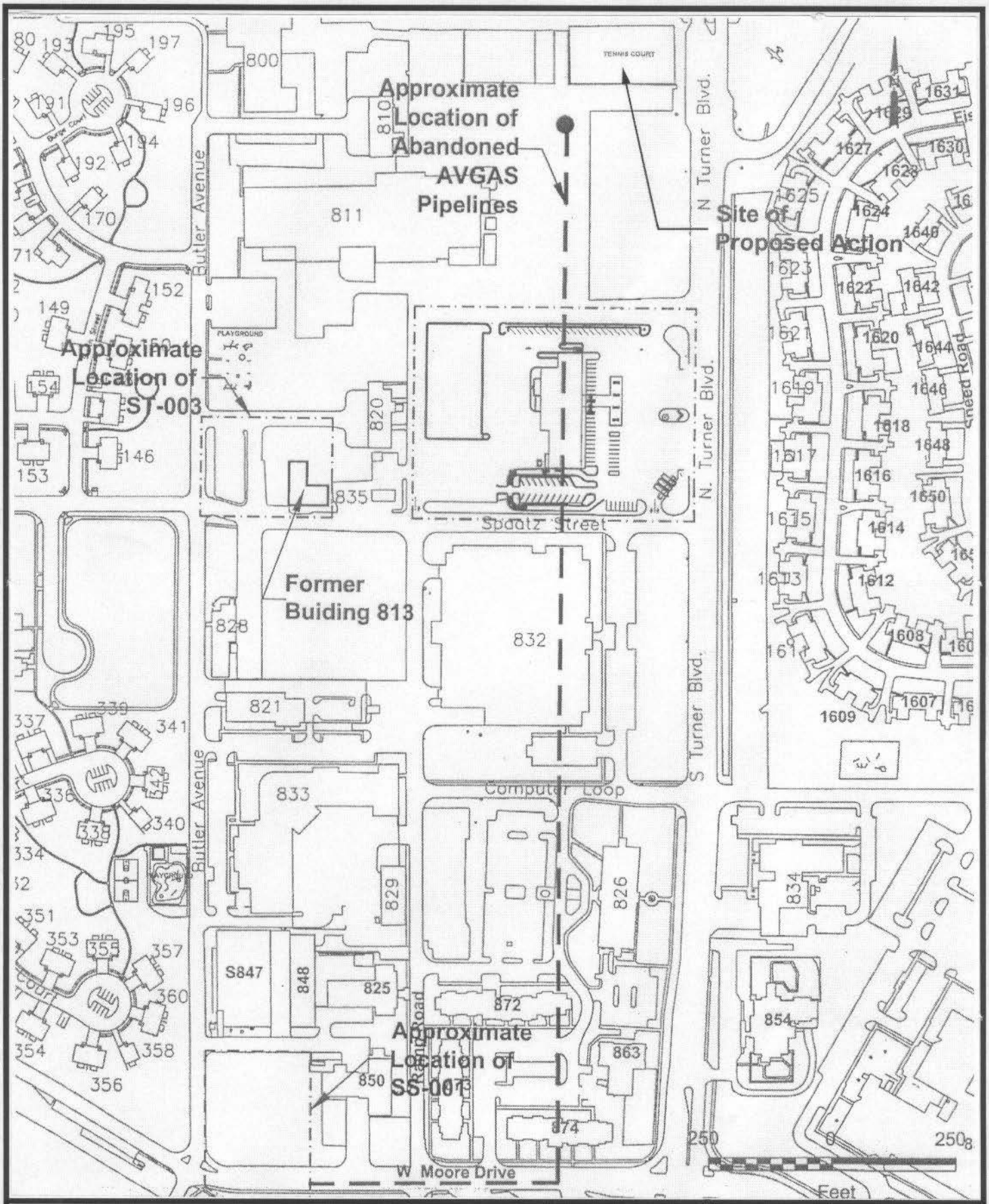


Figure 3-2 IRP Sites in Vicinity of Proposed Action
Maxwell Air Force Base - Gunter Annex, AL

JOB NUMBER: MA-737

DATE: 04/14/2003

ENVIRONMENTAL-MATERIALS CONSULTANTS, INC.

In 1996, USACE contracted to have approximately 1,500 feet of the 6-inch and 3-inch pipelines drained and cleaned. During the course of this project, it was determined that approximately 1,000 feet of the 6-inch pipeline in the "northern section" had formerly been used as a fuel line, and what was thought to be the 3-inch fuel line was actually a 2-inch galvanized steel pipe formerly used as an electrical conduit (electrical wire was present inside the pipe). Both lines were tapped at each of three man ways/access boxes to drain the lines of accumulated fluids. Approximately 5 gallons of water drained from the southern end of the 2-inch line, and the remainder of the line was essentially void of water. Approximately 1,000 gallons of water drained from the 6-inch line, and the water was pumped and discharged to the sanitary sewer system. The lines were allowed to dry for approximately 3 weeks and subsequently filled with cement grout. The access boxes were also filled with cement grout and the lids secured. The ST-004 site was closed under the IRP in September 1998, and it has also been closed under the Alabama UST Program (MAFB 2002d).

ST-003: Building 813 USTs (Former Base Service Station)

Building 813, the former Base Service Station, was located on Spaatz Street between Ramp Road and North Butler Avenue. To support the service station, this site contained one 500-gallon waste oil UST and five 3,000-gallon USTs and associated piping. The 500-gallon waste oil UST was removed in 1991 and the three larger USTs were removed in 1994. The site is now vacant.

Soil and groundwater investigation were conducted in association with the UST removals, and further remedial investigation and remedial action activities were found to be required. From 1992 through 1994, soil gas and hydrocone surveys were conducted and the results indicated the presence of BTEX and purgeable aromatics. Four groundwater monitoring wells were installed and soil borings were performed. While the results of the soil analysis showed measurable concentrations of TRPH, none of the concentrations was above ADEM's action levels of 100 ppm. The study concluded that soils in this area did not warrant further investigation. Groundwater concentrations of benzene from two monitoring wells exceeded the 5 parts per billion (ppb) ADEM action level, and while toluene, ethylbenzene, and xylene were detected, the concentrations were below ADEM action levels. Lead concentrations in soil and groundwater were below ADEM action levels (MAFB 2001b; MAFB2002d).

Soil Vapor Extraction (SVE) was initiated at the site in 1998, and remains active as part of the ongoing Remedial Action at ST-003. Recovered vapor concentrations indicate moderate declines in VOCs. Also, groundwater contaminant concentration curves indicate a decrease in loading into the groundwater from the soil. ST-003 has been classified as "I.1" under the UST Site Classification System. This is the lowest priority ranking within the system. There are no known private water wells within 1,000 feet of the site and no known public water supply wells within one mile of the site. This classification means that the site has contaminated soils and /or groundwater, but does not meet any of the other site classification criteria (MAFB 2000g).

3.5 POLLUTION PREVENTION

The Air force has been proactive in developing a pollution prevention program (PPP) to implement the regulatory mandates in the Pollution Prevention Act of 1990; Executive Order (EO) 12856 Federal compliance with Right-To-Know Laws and Pollution Prevention

Requirements; EO 12873 Federal Acquisition, Recycling, and Waste Prevention; and EO 12902 Energy Efficiency and Water Conservation at Federal Facilities. The Air Force PPP incorporates the following principles, in order of priority:

- Generation of hazardous substances, pollutants, or contaminants will be reduced or eliminated at the source whenever feasible (source reduction).
- Pollution that cannot be prevented will be recycled in an environmentally safe manner.
- Disposal, or other releases to the environment, will be employed only as a last resort and will be conducted in an environmentally safe manner, according to regulatory guidelines.

Air Force Instruction (AFI) 32-7080, dated 12 May 1994, provides the directive requirements for the Air Force PPP. AFI 32-7080 incorporates by reference applicable Federal, Department of Defense, and Air Force level regulations and directives for pollution prevention. Each installation shall incorporate the requirements of AFI 32-7080 into a Pollution Prevention Management Action Plan (PPMAP). The PPMAP is a single reference used to manage the actions needed to develop and execute an installation's PPP. Installation PPMAPs address the process required to run a PPP; the program required to fund pollution prevention programs; the road map to achieve Air Force pollution prevention goals; and the actions required for executing the PPP. Plans are based on recurring opportunity assessments designed to continually evaluate an installation's success in achieving pollution prevention at the highest level in the hierarchy of action. The PPMAP incorporates management strategies for meeting the specific pollution prevention and reduction goals at the base. Some of these goals include:

- Reduction of ODCs, including complete elimination of Class I ODC's and reduction of Class II ODC's by specified target dates using CY92 as the baseline.
- Affirmative procurement of environmentally friendly products in accordance with EO 12873. All products purchased by an installation each year in each of USEPA's "Guideline Item" categories shall contain recycled materials meeting USEPA's Guideline Criteria. Guideline items include paper, retread tires, building insulation, cement / concrete containing fly ash, and re-refined oils.
- Implementation of energy conservation in accordance with EO 12902 (Energy Efficiency & Water Conservation as Federal Facilities, March 8, 1994), including reduction of facility energy use (natural gas, coal, electricity, fuel oil, etc.) by 10% by 2005 with CY 1985 consumption as the baseline.

Each installation will be required to incorporate appropriate management, measurement, and reporting goals within the PPMAP to comply with all elements of the Air Force PPP (USAF, 1995).

3.6 UTILITIES

3.6.1 Definition of Resource

Utilities resources consist of land, facilities, structures, energy, and services necessary to perform required operations. This assessment presents baseline conditions, including current

consumption levels, for electricity and natural gas, potable water, wastewater, and solid waste management associated with relevant fitness center functions at MAFB-Gunter Annex.

3.6.2 Existing Conditions

3.6.2.1 Electricity

MAFB-Gunter Annex receives electricity form an Alabama Power Company substation located near the installation. MAFB-Gunter Annex is a "Priority 1" customer for the Alabama Power Company, which ensures that the installation would receive electrical service in the event that peak demands limit the ability of Alabama Power to supply service to all its customers. There are no daily limits imposed on MAFB-Gunter Annex for electrical consumption (MAFB 2002e). There is no electricity meter for Building 800, the existing Fitness Center. Based on average electricity usage per unit floor area at MAFB-Gunter Annex for FY2001 the annual electricity usage for Building 800 is about 112,000 kilowatt hours and represents about 0.23% of the electricity consumed by MAFB-Gunter Annex during FY 2001. (Amos 2003).

3.6.2.2 Natural Gas

Natural gas is provided to MAFB-Gunter Annex by Alabama Gas Corporation (ALAGASCO). No daily limits are imposed on MAFB-Gunter Annex for natural gas consumption (MAFB 2002e). Annual natural gas usage at Building 800 has been extrapolated from FY 2001 installation usage data to be about 450,000 cubic feet and represents about 0.44% of the natural gas consumed at MAFB-Gunter Annex during FY2001 (Amos 2003).

3.6.2.3 Water

MAFB-Gunter Annex obtains its potable water from the City of Montgomery, which obtains water form both groundwater and surface water sources. Three aquifers are accessed via well fields located in various locations in the city. The Tallapoosa River is the sole source of surface water used by the City of Montgomery for potable water. There are no daily limits imposed on MAFB-Gunter for water consumption (MAFB 2002e). Annual water usage at Building 800 has been extrapolated from FY 2001 installation usage data to be about 540,000 gallons and represents about 0.41% of the water consumed at MAFB-Gunter Annex during FY2001 (Amos 2003).

3.6.2.4 Wastewater

The Catoma Wastewater Treatment Plant serves the MAFB-Gunter Annex. The treatment plant is operated and maintained by the City of Montgomery, has a capacity of 21 million gallons per day (MGD) and records an annual average of 10 MGD (City of Montgomery 2002b).

3.6.2.5 Solid Waste Management

Solid waste generated at MAFB-Gunter Annex is either recycled or disposed of in the North Montgomery City Landfill located west of MAFB-Gunter Annex. This 400 acre landfill began operation in 1980 and incorporates lined cells for garbage refuse and unlined cells for

construction debris. As of 2002, the landfill had an estimated 21 years of remaining operating life (City of Montgomery 2002a).

3.7 CULTURAL RESOURCES

3.7.1 Definition of Resource

Cultural resources consist of prehistoric and historic districts, sites, structures, artifacts, or any other physical evidence of human activity considered important to a culture, subculture, or community for scientific, traditional, religious, or other reasons. Cultural resources can be divided into three major categories: Archaeological resources (prehistoric and historic), architectural resources, and traditional cultural resources.

Archaeological resources are locations where human activity measurably altered the earth or left deposits of physical remains (e.g., tools, arrowheads, or bottles). "Prehistoric" refers to resources that predate the advent of written records in a region. These resources can range from a scatter composed of a few artifacts to village sites and rock art. "Historic" refers to resources that postdate the advent of written records in a region. Archaeological resources can include campsites, roads, fences, trails, dumps, battlegrounds, mines, and a variety of other features.

Architectural resources include standing buildings, dams, canals, bridges, and other structures of historic or aesthetic significance. Architectural resources generally must be more than 50 years old to be considered for protection under existing cultural resource laws. However, more recent structures, such as Cold War era military buildings, may warrant protection if they have exceptional characteristics and the potential to be historically significant structures. Architectural resources must also possess integrity (i.e., its important historic features must be present and recognizable).

Traditional cultural resources can include archaeological resources, buildings, neighborhoods, prominent topographic features, habitats, plants, animals, and minerals that Native Americans or other groups consider essential for the continuance of traditional cultures.

Only significant cultural resources, known or unknown, warrant consideration with regard to adverse impacts resulting form a proposed action. To be considered significant, archaeological or architectural resources must meet one or more criteria as defined in 36 CFR 60.4 for inclusion in the National Register of Historic Places (NRHP).

Several federal laws and regulations have been established to manage cultural resources, including the National Historic Preservation Act (1966), the Archaeological and Historic Preservation Act (1974), the American Indian Religious Freedom Act (1978), the Archaeological Resource Protection Act (1979), and the Native American Graves Protection and Repatriation Act (1990). In addition, coordination with federally recognized Native American tribes must occur in accordance with EO 13084, *Consultation and Coordination with Indian Tribal Governments.*

On November 27, 1999, DoD promulgated its Annotated American Indian and Alaska Native Policy, which emphasizes the importance of respecting and consulting with tribal governments

on a government-to government basis. This policy requires an assessment, through consultation, of the effect of proposed DoD actions that may have the potential to significantly affect protected tribal resource, tribal rights, and Indian lands before decisions are made by the respective services.

3.7.2 Existing Conditions

As of August 1999, nine historic properties investigations had been conducted at MAFB and its properties, including Gunter Annex. A comprehensive Cultural Resources Management Plan (CRMP) has been prepared and provides focused guidance to land managers for compliance with the requisite cultural resource laws and regulations (MAFB1999a). The CRMP recognizes that activities associated with the ongoing mission of MAFB and MAFB-Gunter Annex have the potential to be destructive to historic properties. Therefore certain activities require prior consultation with the MAFB Historic Preservation Office to ensure compliance with the CRMP and cultural resource protection laws and regulations. Those activities are 1) all new construction; 2) ground-disturbing activities such as excavations or earthmoving for training facilities, roads, trails, landing strips, etc; 3) any activities that affect properties that are eligible or potentially eligible for the NRHP; and 4) the disposal of Federally owned lands.

According to the CRMP, eight archaeological sites have been recorded at MAFB proper, but none have been identified at MAFB-Gunter Annex (MAFB 1999a). All of MAFB and Gunter Annex were surveyed for historic properties that predate 1950. The purpose of the survey was to record and photograph the resources on the two bases, and to make recommendations for NRHP eligibility. The survey identified 89 buildings, structures and objects at MAFB-Gunter Annex that predate 1950. Of those only Building 205 was identified as potentially eligible for the NRHP (MAFB1999a). Building 205, a logistics building, is not located in the vicinity of the proposed action and would not be impacted by its construction or operation (MAFB 2002c).

3.8 NOISE

3.8.1 Definition of Resource

Noise is most often defined as unwanted sound that is undesirable because it interferes with speech, communication and hearing, or is otherwise annoying. Under certain conditions, noise may cause hearing loss, interfere with human activities at home and work, and in various ways may affect people's health and well-being. Sound levels are easily measured, but the variability is subjective and physical response to sound complicates the analysis of its impact on people. The decibel (dB) is the accepted standard unit for measuring the amplitude of sound because it accounts for the large variations in amplitude and reflects the way people perceive changes in sound amplitude.

Because the human hearing system is not equally sensitive to sound at all frequencies, a frequency-dependent adjustment called A-weighting (dBA) is used in measuring the effects of sound. This works by filtering the noise signal such that frequencies in the middle of the audible spectrum are emphasized while de-emphasizing the low and high frequencies in a manner corresponding to the way the human ear perceives sound. This filtering network has been established by the American National Standards Institute (ANSI, 1983).

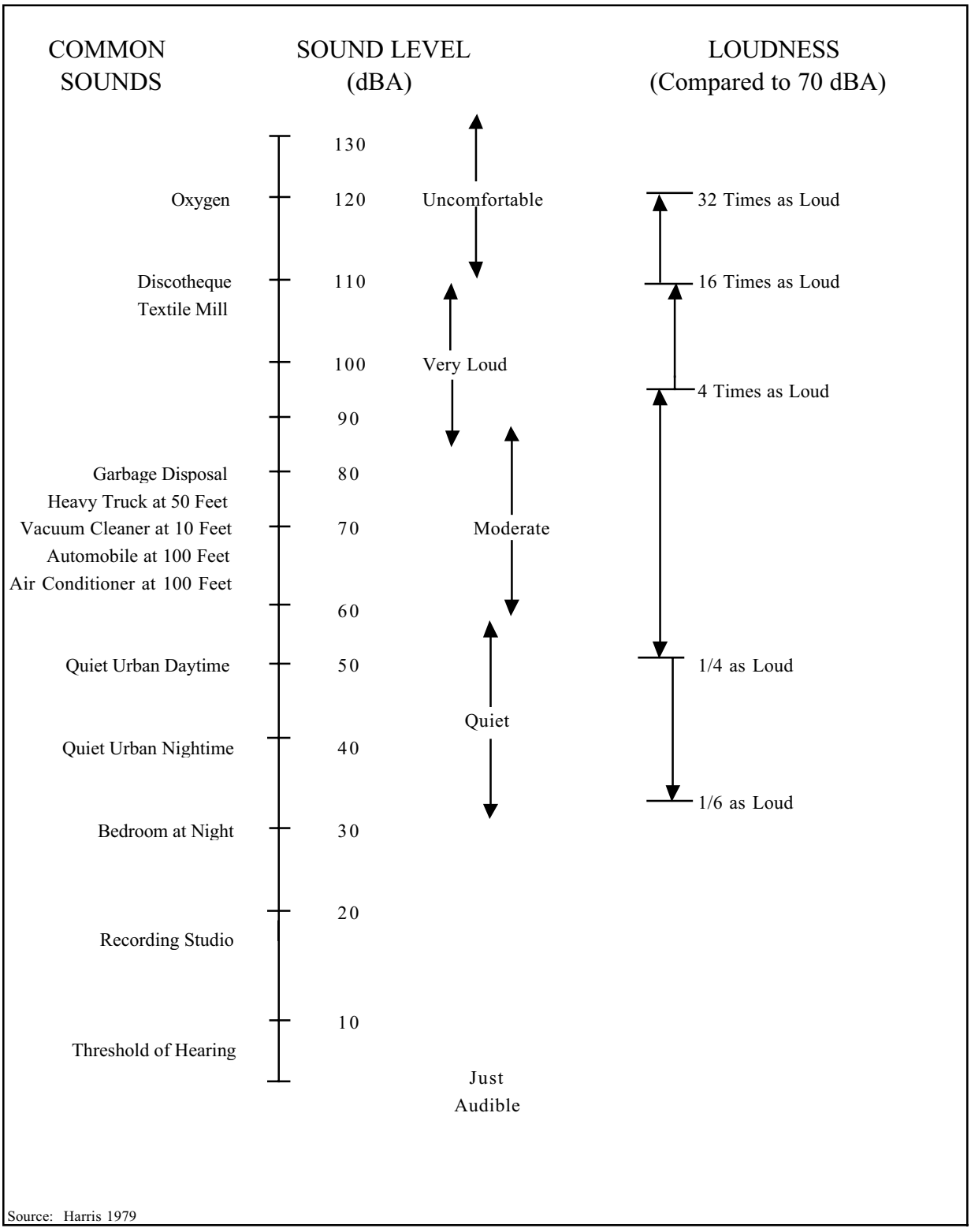
Community noise levels usually change continuously during the day. Several descriptors have been developed to compare noise levels over different time periods. One descriptor is the equivalent sound level (L_{eq}). The L_{eq} is the equivalent steady-state A-weighted sound level that would contain the same acoustical energy as the time-varying A-weighted sound level during the same time interval.

Another descriptor, the day-night average sound level (DNL), was developed to evaluate the total daily community noise environment. DNL is the average A-weighted acoustical energy for a 24 hour period with a 10-dB upward adjustment added to the nighttime levels (2200 to 0700). DNL has been adopted by federal agencies including the Department of Defense, USEPA, the Federal Aviation Administration (FAA), and the Department of Housing and Urban Development (HUD) as the accepted unit for quantifying human annoyance to general environmental noise.

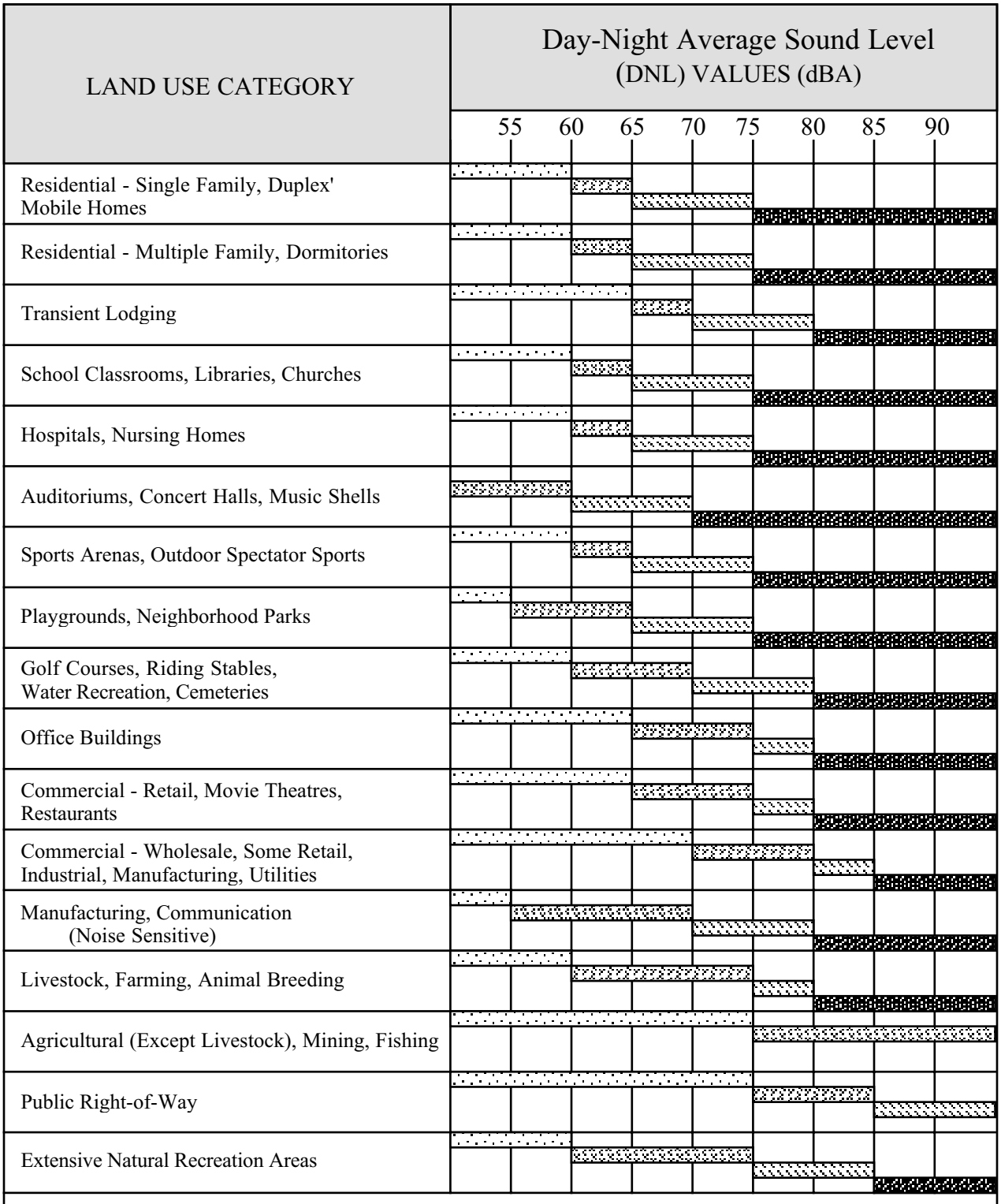
According to Air Force, Federal Aviation Administration, and US Department of Housing and Urban Development criteria, residential units and other noise-sensitive land uses are "clearly unacceptable" in areas where the noise exposure exceeds a DNL of 75 dBA; "normally unacceptable" in regions where DNL exposure is between 65 and 75 dBA; and "normally acceptable" in areas exposed to noise where the DNL is 65 dBA or less.

The Federal Interagency Committee on Urban Noise developed land-use compatibility guidelines for noise in terms of DNL. Air Force land use compatibility guidelines (relative to DNL values) are documented in the Air Installation Compatible Use Zone (AICUZ) Program Handbook. Five noise zones are used in AICUZ studies to identify noise impacts from base aircraft operations, ranging from DNL's of 65 to 75 dBA and above. For example, it is recommended that no residential uses such as homes, multifamily dwellings, dormitories, hotels, and mobile home parks, be located where the noise is expected to exceed a DNL of 65 dBA. If sensitive structures are located in areas within a DNL of 65 to 75 dBA, noise attenuation measures should be designed into the structures to achieve a 25 to 30 dBA noise reduction. Some commercial and industrial uses are considered acceptable where the noise level exceeds a DNL of 65 dBA (FICON 1992).

Figure 3-3
Examples of Typical Sound Levels
in the Environment



Source: Harris 1979



Source: Federal Interagency Committee on Noise 1992

Figure 3-4 Recommended Land Use for DNL-Based Noise Values

3.8.2 Existing Conditions

The dominant noise source at MAFB-Gunter Annex is primarily generated from vehicular traffic and construction operations. The noise from construction projects is considered to be temporary, and isolated to the proposed site. There are no aircraft operations active on MAFB-Gunter Annex currently. The nearest noise-sensitive receptor to the site of the proposed action is the accompanied housing area located approximately 550 east of the site across North Turner Boulevard.

3.9 BIOLOGICAL RESOURCES

3.9.1 Definition of Resource

Biological resources include living, native, or naturalized plant and animal species and the habitats in which they exist. Plant associations are referred to as vegetation and animal species are referred to as wildlife. Habitat can be defined as the resources and conditions present in an area that produces occupancy of a plant or animal (Hall et al. 1997). For purposes of this EA, biological resources are divided into three major categories: vegetation; wetlands and sensitive habitats; and rare, threatened, and endangered species.

Vegetation includes all existing terrestrial plant communities with the exception of wetlands or threatened, endangered, or sensitive plant species. The affected environment for vegetation includes only those areas potentially subject to ground disturbance.

Wetlands are considered sensitive habitats and are subject to Federal regulatory authority under Section 404 of the CWA and Executive Order (EO) 11990, *Protection of Wetlands.* Jurisdictional wetlands are defined by the U.S. Army Corps of Engineers (USACE) as those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (USACE 1987). Areas meeting the Federal wetland definition are under the jurisdiction of the USACE. Wetlands generally include swamps, marshes, bogs, and similar areas (33 CFR Part 328). Like vegetation, the affected environment for wetlands includes only those areas potentially subject to ground disturbance.

Rare, threatened, and endangered species are defined as those plant and animal species listed as rare, threatened, endangered, or proposed as such, by the U.S. Fish and Wildlife Service (USFWS). The Federal Endangered Species Act protects federally listed threatened and endangered plant and animal species. Federal species of concern, formerly Category 2 candidate species, are not protected by law; however, these species could become listed and therefore, protected at any time. Their consideration early in the planning process may avoid future conflicts that could otherwise occur.

3.9.2 Existing Conditions

3.9.2.1 Vegetation

MAFB-Gunter Annex is situated within the Eutaw Belt sub-region of the central Pine Belt. The vegetation that once existed at MAFB-Gunter Annex consisted of short grass prairies, upland forests, and bottomland forests (MAFB 2002a). Because of the development on MAFB-Gunter Annex, virtually no original vegetation or naturally wooded areas exist on the base today. Presently the vegetation on MAFB-Gunter Annex mainly consists of urban or improved vegetative communities. Such plantings include ornamental trees and shrubs such as crape myrtle (Lagerstroemia indicia), Bradford pear (Pyrus calleryana), and southern magnolia (Magnolia grand flora). The dominant trees found on the base are loblolly pine (Pinus taeda), various oaks (Quercus spp.), hackberry (Celtis laevigata), and pecan (Carya illinoensis)(MAFB 2002a).

3.9.2.2 Wildlife

According to previous surveys, sixteen species of birds, two mammals, and no reptiles were documented in MAFB-Gunter Annex. The two mammals included the eastern gray squirrel (Sciurus carolinensis) and the cottontail (Sylvilagus floridanus), species common to the area. Only one bird species at MAFB-Gunter Annex, the killdeer (Charadrius vociferous), was identified as a breeding species (MAFB 2002a).

3.9.2.3 Endangered, Threatened, and Special Status Species

According to USFWS, no federally listed endangered, threatened, or proposed species, or their critical habitats occur at or in the vicinity of the proposed action (USFWS 2002).

3.9.2.4 Wetlands

A wetlands inventory, performed in 1994, identified 29 wetlands areas on MAFB. None of these are on MAFB-Gunter Annex (MAFB 2002b).

3.10 GEOLOGICAL RESOURCES

3.10.1 Definition of Resource

Geological resources refers to the bedrock, overlying soils, mineral deposits, fossil remains and topography of a given area. The bedrock is the consolidated material that composes the earth's crust and it is generally divided into three categories, igneous, sedimentary and metamorphic based on the manner in which it was formed. The tendency for seismic activity and for development of solution cavities are factors that can significantly impact the suitability of the bedrock to support structures.

Soil, in general, refers to the unconsolidated earthen materials overlying bedrock. Soils are formed as the bedrock weathers and as the particles are moved and re-deposited by water and wind. Cohesion, shear strength, permeability, consolidation, shrink-swell potential, and erodibility are factors that determine the suitability of the soil to support structures.

Topography is defined as the relative position and elevation of the natural and/or man-made features of an area that describe the configuration of its surface. Topography is usually described

with respect to elevation, slope, aspect, and landform. An area's topography can be influenced by tectonic and volcanic activity, by erosion and deposition and by human actions. Topographic features must be considered in the design of structures for a site.

Minerals are the substances of which the bedrock and soil are composed. They are naturally occurring inorganic substances having specific properties and chemical compositions. Minerals include gems like diamond and ruby as well as quartz which is the primary component of the sands we mine.

3.10.2 Existing Conditions

MAFB-Gunter Annex is located within the Fall Line Hills subdivision of the Gulf Coastal Plain Physiographic Province. Within the Coastal Plains Region of Montgomery County, the Geologic units range in age from the Upper Cretaceous to the Holocene. The major differentiated sedimentary units present, in order of increasing geologic age, are the Holocene Alluvium; the Pleistocene Terrace Deposits; and the Upper Cretaceous Eutaw, Gordo, and Coker formations (MAFB 1996a). This sequence of sediment formation overlies pre-Cretaceous crystalline rock in the form of a southerly dipping wedge with a line of origin along the Fall Line. The topography of the main section of MAFB-Gunter Annex is generally level with elevations averaging 215 feet above mean sea level (msl). The regional surficial geology is dominated by Quaternary Terrace/Alluvial deposits consisting of coarse sands, gravels, silts, and clays deposited by the ancestral and current Alabama River. The thickness of the deposits generally range from 30 to 50 feet, but in come areas can be as thick as 80 feet (MAFB 1996a). The thickness of the individual geologic units tends to follow a pattern that shows a gradual dip seaward at a shallow rate. Lithologic logs during drilling activities show that between the 10 and 30 feet depths, the deposits are composed of fine-to medium grained silty sand with variable amounts of quartz pebbles and some clayey sand. At soil depths greater than 30 feet, the amount of quartz pebbles decreases and the deposits grade into mostly poorly graded sand with sand lenses (MAFB 2001b).

3.11 TRANSPORTATION

3.11.1 Definition of Resource

Transportation refers to the movement of vehicles on roadway networks. Primary roads, such as major and interstate highways are designed to move traffic and do not necessarily provide access to all adjacent areas. Secondary roads, commonly referred to as surface streets, are used to gain access to residential and commercial areas, hospitals, and schools. Roadway operating conditions are typically described in terms of average daily traffic (ADT) volumes.

3.11.2 Existing Conditions

MAFB-Gunter Annex is located approximately five miles northeast of downtown Montgomery, Alabama. Congressman William Dickinson Drive (US Highway 231) runs east-west along the north side of the installation and provides access to the main gate. Congressman William Dickinson Drive intersects with the Northern By-Pass (Alabama Highway 152) about a mile northeast of the installation and with the Atlanta Highway about three miles southwest. Dalraida

Road provides access to the installation through the south gate and intersects with the Atlanta Highway about two miles south of the installation. MAFB-Gunter Annex is approximately four miles from the closest interstate highway interchange (I-85 exit 6). Direct access to the installation is possible through two gates. The main gate is a 24-hour post located on Turner Boulevard at Congressman William Dickinson Drive. The south gate is manned approximately 18 hours per day and is located on Turner Boulevard at Dalraida Road. Traffic counts from November 2001 show that daily traffic counts at the main gate are approximately 3,455 per day while counts for the south gate are approximately 2,390 per day (MAFB 2001c).

The roadway system at MAFB-Gunter Annex has evolved as a result of changing mission requirements over time. The road network is primarily in a grid form, composed mainly of two-lane undivided roads with curbside parallel parking. Most of the former airfield, taxiways, and aprons have been converted into roadways and parking areas. An analysis of parking facilities (MAFB 1993) indicated that parking is generally adequate with the exception of the area around Buildings 402 and 403 and the area around Buildings 1014, 1025, and 1016. At these locations, parking occupancies are greater than 90 percent of available supply. According to the study, travel speeds noted during morning and evening peak demand periods were generally within 75 percent of posted speeds and reflect good operating conditions.

SECTION 4 ENVIRONMENTAL CONSEQUENCES

This section presents an evaluation of potential environmental consequences that may result from implementing the proposed action or the no action alternative. Potential impacts are addressed in the context of the scope of the proposed action as described in Section 2.0 and in consideration of the potentially affected environment as characterized in Section 3.0.

4.1 AIR QUALITY

Criteria pollutant emissions resulting from proposed construction activities at the MAFB-Gunter Annex have been evaluated for the proposed action and the no action alternative. Air quality impacts would be significant if emissions associated with the proposed action or alternatives would: increase ambient air pollution concentrations above the NAAQS; contribute to an existing violation of the NAAQS; interfere with, or delay timely attainment of the NAAQS; or impair visibility within federally mandated PSD class 1 areas. Additionally, a conformity analysis would be required before initiating any action that might lead to nonconformance of a SIP or an exceedance of *de minimis* criteria pollutant thresholds, or that might contribute to a violation of the NAAQS. Since Montgomery County is in attainment for all standards, a conformity analysis of determination under the Clean Air Act is not required (USAF, 2001).

Proposed Action

Fugitive dust emissions from construction activities and exhaust emissions from construction vehicles would be generated during the construction of the new fitness center and the demolition of the existing fitness center. The construction and demolition activities associated with the proposed action would result in minor, temporary increases in criteria pollutants. However, there would be no long-term increase in mobile or stationary source emissions at the installation due to the proposed action.

Table 4-1
Estimated Emissions as a Result of the Proposed Action

	Emission Constituents				
	SO_2	**NOx**	**CO**	**VOC**	**PM_{10}**
Emissions (tons/ 1.5 year)	.71	13.86	11.85	4.7	1.17
Representative de minimis levels[2]	100	100	100	100	100
Exceeds de minimis Threshold	N/A	N/A	N/A	N/A	N/A

Notes: [2] de minimis levels are presented for comparison purposes only; the region is in attainment of the NAAQS.
CO - Carbon Monoxide; VOCs - Volatile Organic Compounds; NOx - Nitrogen Oxides; SO_2 - Sulfur Dioxide
PM_{10} - particulate matter less than 10 microns in diameter; N/A = not applicable

Construction and demolition emissions occur from construction equipment emissions and fugitive dust. Construction and demolition equipment emissions are estimated in Table 4-1, with

hours of operation estimated based on experience with similar types of construction projects. Emission factors used in the tables are based on USEPA recommended emission factors (USEPA, 1985).

Fugitive dust is emitted during preparation of a construction site as a result of ground disturbance (groundbreaking, drilling, etc.) as well as dirt and aggregate spreading or loading from cut and fill activities. To calculate dust emissions, the USEPA recommends an emission factor of 1.2 tons of total suspended particulate (TSP) per acre per month (USEPA, 1985), or 80 pounds per acre per day. TSP includes all suspended particulate fractions of the dust. To determine PM_{10} emissions, the ratio of PM_{10} to TSP is approximately 0.24 (USEPA, 1988). Therefore, the PM_{10} emission factor related to fugitive dust from construction is 19.2 pounds per acre per day.

The USEPA estimates that for every work year of construction (discounting holidays, rain days, etc.), approximately 115 days are used for site preparation and other activities, which generate dust. For purposes of this analysis, it is assumed that the construction period for the fitness center will be 18 months. Table 4-1 includes the estimated PM_{10} emissions using these assumptions (USAF 1995). The incorporation of fugitive dust control measures, primarily watering twice a day with approximately 3,500 gallons per day (gpd) per acre, would decrease the PM_{10} emissions by approximately 50 percent.

Since the proposed action would occur in an area that is in attainment for the NAAQS, the general conformity rules, included in 40 CFR Parts 6, 51, and 93, would not apply. Although the area surrounding Maxwell AFB is in attainment for the NAAQS and not subject to the Clean Air Act conformity requirements, the conformity regulations include "de minimus" amounts below which projects or actions are not expected to adversely affect the status of an area that is non-attainment. The "de minimus" amounts for moderate non-attainment areas are 100 tons each for nitrogen oxides, sulfur oxides, carbon monoxide, VOC, and particulate matter, and 25 tons for lead. The respective emissions for the proposed action are substantially less than these thresholds. Therefore, even if the Montgomery County area were in moderate attainment, the proposed action would emit "de minimus" amounts that would not adversely affect air quality (USAF, 1995). No significant impacts to air quality would therefore occur as a result of implementation of the proposed action.

No Action Alternative

Air emissions under the no action alternative would continue as described in the baseline conditions in Section 3 of this assessment. There would be no construction or demolition emissions associated with the no action alternative.

4.2 WATER RESOURCES

Significance criteria for water resources impacts are based on water availability, quality, and use; existence of wetlands; and associated regulations. A potential impact on water resources would be significant if it were to reduce water availability to existing users or interfere with the supply; create or contribute to overdraft of groundwater basins or exceed safe annual yield of water supply sources; adversely affect water quality or endanger public health by creating or worsening adverse health hazard conditions; threaten or damage unique hydrologic characteristics (i.e.

wetland); and violate established laws or regulations that have been adopted to protect or manage water resources of an area.

Proposed Action

Under the proposed action, construction and demolition activities would result in a temporary increase in total suspended particulate matter, (sedimentation), to nearby surface water. The incorporation of best management practices for sediment control during construction and demolition activities would minimize potential water quality issues. This would incorporate erosion and sediment controls that would be in place during construction and demolition activities to reduce and control siltation or erosion impacts to areas outside of the construction site. If final designs, or concurrent construction would require the disturbance of more than five acres, a Notice of Intent under the general Alabama storm water discharge permit should be filed with ADEM. Additionally, the contractor would be required to develop a storm water pollution prevention plan for the project (USAF, 2001). Since the current design is less than 5 acres, it is not anticipated that this permit will be required. Because there are no identified wetlands on MAFB-Gunter Annex no wetlands will be impacted by the proposed action.

No Action Alternative

Under the no action alternative no construction or demolition activities would occur at the current fitness center, or at the proposed location. Therefore, no significant impacts to water resources would occur under the no action alternative.

4.3 LAND USE

Significance of potential land use impacts is based on the level of land use sensitivity in areas affected by a proposed action. In general, land use impacts would be significant if they would: be inconsistent or in non-compliance with applicable land use plans or policies; preclude the viability of an existing land use activity; preclude continued use or occupation of an area; or be incompatible with adjacent or vicinity land use to the extent that public health or safety is threatened.

Proposed Action

The proposed site for the construction of the new fitness center is the northeastern section of the land directly west of N. Turner Boulevard and east of the existing fitness center. Currently, a basketball court, a racquetball court, four tennis courts, and a parking lot occupy the preferred site. The new fitness center will be approximately 4,626 gross square meters. The proposed site is in an area that has been previously disturbed by base development; therefore little, if any natural habitat exists. Use of the site selected for the proposed action is in accordance with the adopted Comprehensive Plan for MAFB-Gunter Annex and all project components will be designed and sited to be compatible with existing base land use. The proposed action will be centrally located within the Community Commercial Services land use zones, thereby maintaining the functional relationship among community facilities. Furthermore, the site will be easily accessible to all family housing areas and within walking distance of the majority of the troop housing and community support areas. The site is also accessible to military personnel

residing in the civilian community. Noise caused by the associated construction and demolition activities would last only for the duration of the construction and demolition project.

No Action Alternative

Under the no action alternative, fitness activities and physical fitness programs would continue in their present state. The fitness center would remain unmodified; thereby, land use would not change from the baseline conditions identified in Section 3 of this EA.

4.4 HAZARDOUS MATERIALS AND WASTES

Federal, state, and local laws regulate the storage, disposal, and transportation of hazardous materials and wastes. These laws have been established to protect human health and the environmental from potential impacts. The significance of impacts associated with hazardous wastes and materials is based on the toxicity of the substance, transportation and storage risk, and the method of waste disposal. Impacts are considered significant if the storage, use, transportation, or disposal of these substances increase human health risks or environmental exposure.

4.4.1 Hazardous Materials

Proposed Action

Construction activities associated with the proposed action would require the use of certain hazardous materials such as paints, welding gases, solvents, preservatives, and sealants. It is anticipated that the quantity of products containing hazardous materials used during construction of the fitness center would be minimal and their use would be of short duration. Contractors would be responsible for the management of hazardous materials, which would be handled in accordance with federal, state, local, and military laws and regulations. Therefore, hazardous materials management at MAFB-Gunter Annex would not be impacted by the proposed action (USAF 2002b).

The possible presence of asbestos-containing materials and lead-based paint that might be found in the current fitness center do not represent a significant concern under the proposed alternative or the no action alternative. No asbestos materials have been noted in the interior or on the exterior of the current fitness center during a recent survey (Lee 2002). However, the same survey indicated that water pipes serving the building may be constructed of Transite, a cement asbestos product. Because of the facility's age, and the construction methods employed at that time, it is assumed that the exterior and interior of the building contains lead-based paint and should be treated as such during demolition.

Asbestos removal procedures are detailed in Section 7.1.5 of the Maxwell/Gunter Air Force Base Asbestos Operating Plan dated 1 March 1991. Any asbestos-containing materials noted in the survey are to be removed in accordance with this plan and deposited in a landfill authorized to accept this type of waste. Also, if lead-based paint is noted and there is a need to disturb or remove it, the work shall be performed in accordance with the 42 ABW Lead-Based Paint Management Plan (USAF, 1995).

No Action Alternative

Under the no action alternative, hazardous materials conditions would remain unchanged and any hazardous materials on or near the project site would continue to be managed under existing programs. Therefore, there would be no impacts from hazardous materials with implementation of the no action alternative.

4.4.2 Hazardous Wastes

Proposed Action

It is anticipated that the quantity of hazardous waste generated from the proposed construction and demolition activities would be negligible. Contractors would be responsible for the disposal of hazardous wastes in accordance with federal, state, local, and military laws and regulations. Construction of the fitness center would not impact the MAFB-Gunter hazardous waste management program.

No Action Alternative

Under the no action alternative hazardous waste conditions would remain unchanged from the baseline. Any contamination on, or near the project site would continue to be managed as appropriate under existing programs. Therefore, there would no impacts from hazardous waste with implementation of the no action alternative.

4.4.3 Solid Waste Management

Proposed Action

Solid waste generated from the proposed demolition and construction activities would consist of building materials such as concrete, lumber, glass, and metal. Solid waste would be collected and transported to a private landfill for disposal in accordance with the installation's solid waste management plan. The proposed construction and demolition activities would not significantly impact MAFB-Gunter Annex's solid waste management.

No Action Alternative

Under the no action alternative, solid waste management practices would continue to remain unchanged. Therefore, there would be no impacts to the solid waste management program under the no action alternative.

4.5 POLLUTION PREVENTION

Proposed Action

The IRP sites on MAFB-Gunter Annex have been investigated extensively in accordance with state and federal regulations and guidelines. The IRP site, ST-004, is located on or in the vicinity

of the proposed construction site. Review of documents describing the investigations completed for the ST-004 site indicate that the underground pipelines associated with the AVGAS distribution system may extend into the area of the proposed action. Specifically, the pipelines, which are located three feet below ground, run in a north-south direction to the southern portion of the proposed site. The two lines have been drained and filled with cement grout, but the surrounding soils and groundwater may have been contaminated prior to the draining and filling of the lines, and this contamination may still exist in the proposed construction site (USAF 2002a).

In the event the proposed action is selected, plans must be developed in advance of the excavation and construction activities to provide for contingencies in the event that the pipelines and/or contaminated media are encountered during construction activities. Based upon the depth of the existing pipelines and the average depths to groundwater at MAFB-Gunter Annex (10-27 feet bgs), it is possible that contaminated soils and/or groundwater will be encountered during excavation. To further characterize the work areas (i.e., the specific areas where excavation would be conducted), additional screening and sampling may be necessary to determine if contaminated groundwater or soils are present. If contaminated media are identified, a risk assessment may be necessary to define the potential for human exposure and to aid in the selection of appropriate personal protective equipment for the workers involved in any construction activity (USAF 2002a).

Except for the possibility of encountering petroleum contaminated soil and/or groundwater associated with ST-004 the proposed action should not impact the pollution prevention program at MAFB-Gunter Annex. Quantities of hazardous materials and chemical purchases, off-installation transport of hazardous waste, disposal of hazardous materials and wastes would remain unchanged with the implementation of the proposed action.

No Action Alternative

Under the no action alternative existing conditions would remain as is and the pollution prevention program would continue to remain unchanged. No significant impacts would be expected.

4.6 UTILITIES

4.6.1 Water Supply

Proposed Action

The existing fitness center annually consumed roughly 0.41% of MAFB-Gunter Annex's water consumption in FY2001. Based on known and estimated water consumption, the projected water consumption for the new fitness center would increase 25% to 100% above the existing facility's water consumption (Amos 2003). This increase is due to the projected facility's expansion of 2812 gross square meters (gsm) beyond the existing facility's 1814 gsm. The projected maximum 100% increase in annual water consumption over the existing facility usage would amount to 0.41% of the FY 2001 water consumption for MAFB-Gunter Annex or about 540,000 gallons and should not impact the municipal water authority.

No Action Alternative

There would be no effects on the water supply by implementing the no action alternative; therefore, the baseline conditions in Section 3 of this assessment would apply.

4.6.2 Electricity and Natural Gas

Proposed Action

Based on known and estimated design energy budgets, the projected electricity consumption for the proposed action would increase 75% to 100% above the current facility's electricity consumption (Amos 2003). This projected increase is due to the projected facility's expansion of 2812 gross square meters (gsm) beyond the existing facility's 1814 gsm and may be overly conservative because of energy conservation associated with improved energy efficiency of the new facility. Even the projected maximum 100% increase in annual electricity consumption would amount to 0.23% of the current electricity consumption for MAFB-Gunter Annex or about 112,000 kilowatt hours. Because there are no daily limits imposed on MAFB-Gunter Annex for electricity, the minor increase in electricity demand under the proposed action would have no adverse impact on the ability of Alabama Power Company to effectively serve its customers.

If annual natural gas consumption increases at the maximum projected 100% beyond the existing facility's annual consumption, this would amount to 0.44% of MAFB Gunter Annex's FY 2001 natural gas consumption. Because there are no daily limits imposed on MAFB-Gunter for natural gas consumption, the increase in natural gas demand under the proposed plan would have no adverse impact on the ability of ALAGASCO to effectively serve its customers.

No Action Alternative

Under the no action alternative, energy usage from electricity and natural gas would be consistent with the baseline conditions given in Section 3 of this assessment.

4.7 CULTURAL RESOURCES

Cultural resources are subject to review under both federal and state laws and regulations. Section 106 of the National Historic Preservation Act of 1966 empowers the Advisory Council on Historic Preservation to comment on federally initiated, licensed, or permitted projects affecting cultural sites listed or eligible for inclusion on the NRHP. When cultural resources have been identified, significance evaluation is the process by which these resources are assessed. Only cultural resources determined to be significant are protected under the National Historic Preservation Act.

Analysis of potential impacts to cultural resources considers both direct and indirect impacts. Direct impacts occur by: 1) physically altering, damaging, or destroying all or part of a resource; 2) altering characteristics of the surrounding environment that contribute to resource significance; 3) introducing visual, audible, or atmospheric elements that are out of character with the property or alter its setting; or 4) neglecting the resource to the extent that it deteriorates

or is destroyed. Direct impacts can be assessed by identifying the type and location of the proposed action and by determining the exact locations of cultural resources that could be affected. Indirect impacts primarily result from the effects of project-induced population increases and the resultant need to develop new housing areas, utilities services, and other support functions necessary to accommodate population growth. Subsequent use of these facilities and activities can disturb or destroy cultural resources.

4.7.1 Archaeological Resources

Proposed Action

The proposed construction would take place in an area previously disturbed by urban development. No archeological sites or architectural resources are known to exist at, or in the vicinity of, the proposed action.

The Cultural Resource Management Plan notes that due to current methodological limitations of cultural resource surveys, all archeological sites at MAFB-Gunter Annex may not have been discovered during prior surveys. The CRMP mandates that if archeological sites are discovered during the construction or implementation of an activity, all work in the area must cease and the MAFB Historic Preservation Officer must be notified immediately by telephone for consultation and appropriate action (USAF 1999). Work would not resume until an archeological investigation is completed.

No Action Alternative

Under the no action alternative, proposed construction activities at the facility would not occur. Baseline archeological resources would remain unchanged.

4.7.2 Historical Resources

Proposed Action

The proposed action would have no effect on any listed, eligible, or potentially eligible historic resources. Building 800, the existing fitness center, is not listed, nor eligible or potentially eligible for the NRHP. No buildings or structures surrounding Building 800 are listed, eligible, or potentially eligible for the NRHP. If any qualifying properties are discovered during the construction or demolition activities, all work on the suspected site must cease. The MAFB Historic Preservation Officer must be notified by telephone immediately to determine the appropriate action before work is resumed.

No Action Alternative

The no action alternative would have no effect on any listed or eligible historic resources.

4.8 NOISE

Noise impacts as a result of implementation of the proposed action at MAFB-Gunter Annex have been evaluated to the degree to which they would affect the baseline noise environment. Potential changes in the noise environment can be beneficial (i.e., if the number of sensitive noise receptors exposed to unacceptable noise levels is reduced); negligible (i.e., if the total area exposed to unacceptable noise levels is essentially unchanged); or adverse, (i.e., if they result in increased exposure to unacceptable noise levels).

Proposed Action

Noise levels within and adjacent to the project construction and demolition area would increase during the construction and demolition period. However, since construction and demolition activity would be limited to daytime hours and would occur for a defined period of time, long-term noise impacts are not expected.

The majority of construction noise would be generated by vehicles and equipment involved in site clearing and grading, foundation preparation, facility construction, and finish work and demolition activities. Typical noise levels associated with these activities range from a L_{eq} of 75 to 90 dBA at 50 feet from the sources, depending on the type and usage of the construction equipment. Noise attenuates at a rate of approximately six decibels for each doubling of distance between the source and the receptor (USAF, 1995).

Since the nearest noise-sensitive receptor (a residential area) is located approximately 550 feet from the site of the proposed action, no appreciable long-term noise impacts would occur. In addition, the operation and use of the proposed facility would not generate significant noise levels and the noise environment at the installation would continue to be dominated by vehicular traffic. Therefore, no significant impacts to the noise environment would occur as a result of the proposed action.

No Action Alternative

Under the no action alternative, the existing fitness center would continue to function with no foreseen changes. Therefore, there would be no changes in the noise environment.

4.9 BIOLOGICAL RESOURCES

Determination of the significance of potential impacts to biological resources is based on the importance (e.g. legal, commercial, recreational, ecological, or scientific) of the resource; the percentage of the resource affected to its occurrence in the region; the sensitivity of the resource to proposed activities; and the duration of the ecological ramifications. Impacts to biological resources are significant if species or habitats of concern are adversely affected over relatively large areas or if disturbances cause reductions in population size or distribution of species of concern.

This section analyzes the potential for impacts to biological resources, such as habitat loss, from implementation of the proposed action or alternative.

4.9.1 Vegetation and Wildlife

Proposed Action

Wildlife habitat is limited due to fragmentation by existing facilities, roads, and impervious surfaces at MAFB-Gunter Annex. Construction associated with the proposed action would require very minimal vegetation removal since the majority of the preferred site is paved. Since the preferred site has minimal vegetation, wildlife species which are found on the proposed site are urban adapted and disturbance tolerant. Therefore, the proposed action would not have a significant or adverse affect on wildlife species.

Demolition of the existing fitness center would have possible moderate impact to the surrounding mowed lawns and urban plantings surrounding the fitness center. These habitats are of low habitat value and support insignificant numbers and types of species. If needed, a replanting and restoration effort would be biologically and economically feasible. Therefore, the proposed action would not have a significant or adverse affect on wildlife species.

No Action Alternative

No habitat disturbance would occur under the no action alternative beyond that associated with the existing operational activities.

4.9.2 Endangered, Threatened, and Special Status Species

Proposed Action

No federally listed endangered, threatened, or proposed species, or their designated critical habitat under the jurisdiction of the USFWS, occur at or in the vicinity of the proposed action (USFWS 2002). Furthermore, the Alabama Department of Conservation and Natural Resources concludes that the closest sensitive species to the proposed action is recorded as occurring in the Alabama River approximately four miles from the site of the proposed action (ADCNR 2002). Therefore, the proposed action should have no effect on any endangered, threatened, and special species.

No Action Alternative

No effects on special status species would occur under the no action alternative.

4.10 GEOLOGICAL RESOURCES

The protection of unique geologic features, minimization of soil erosion, and the location of facilities in relation to potential geologic hazards are considered when evaluating impacts of a proposed action. Generally, impacts on geological resources are not significant if proper construction techniques and erosion control measures are implemented to minimize or mitigate short and long-term disturbance to soils and to overcome limitations imposed by earth resources.

4.10.1 Bedrock

Proposed Action

Construction and demolition activities associated with the proposed action would not significantly affect the geologic units underlying the installation as no unique geologic features or geologic hazards are present. However, the construction activities, such as grading, excavation, and re-contouring of the soil, would result in soil disturbance, but would not significantly affect topographic features. Therefore, no significant impacts to geological resources would occur as a result of implementation of the proposed action.

No Action Alternative

Under the no action alternative, existing conditions would remain as is. As a result, the baseline geological resources remain unchanged and no significant impacts would occur.

4.10.2 Soils

Proposed Action

Soils would be disturbed during grading activities with the proposed construction and demolition. However, implementation of Best Management Practices (BMPs) during construction would reduce impacts to soils associated with grading and clearing activities. In addition, standard erosion control measures (e.g., silt fencing, sediment traps, application of water sprays, and re-vegetation of disturbed soils) would be implemented to reduce potential impacts related to these characteristics. Therefore, no significant impacts to soils would occur as a result of implementation of the proposed action.

No Action Alternative

No disturbance of soil would occur under the no action alternative. Baseline conditions for soils would remain unchanged.

4.11 TRANSPORTATION

Transportation impacts of a proposed action would be considered significant if they affect safety and/or the capacity of roads within the installation or the region of if they increase the potential for traffic flow disruption along local and/or regional corridors.

Proposed Action

Construction activities would require mobilization and demobilization of equipment, daily transportation of the workforce and deliveries of construction materials. Demolition activities would also require removal of demolition debris. Deliveries of oversize materials could cause temporary disruptions to traffic flow and should be scheduled during non-peak traffic times. Traffic associated with construction and demolition activities would constitute a small portion of

the existing regional and installation traffic volume. Construction related traffic would also be of short duration, occurring only during the construction period.

Because the new facility will be constructed very near to where the existing facility is located and will have the same general access routes traffic circulation will not be significantly impacted and may be improved because the new facility is being constructed in a more accessible area. Usage of a new facility is likely to increase above current usage of the existing facility and result in some additional traffic however this additional traffic would constitute a small portion of the existing regional and installation traffic volume.

No Action Alternative

No change in traffic patterns or volume would occur under the no action alternative. Baseline conditions transportation would remain unchanged.

SECTION 5 CUMULATIVE EFFECTS

Cumulative effects result from the incremental effect of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. The Council of Environmental Quality states that the first steps in assessing cumulative effects involve defining the scope of the other actions and their interrelationship with the proposed action and other actions. It must also evaluate the nature of interactions among these actions. In accordance with NEPA, a discussion of cumulative effects resulting from projects that are proposed, currently under construction, recently completed, or anticipated to be implemented in the near future is necessary (USAF 2002a).

5.1 PAST, PRESENT AND REASONABLY FORESEEABLE FUTURE ACTIONS

Several projects are planned at MAFB-Gunter Annex. Of the five projects outlined below, one is slated for construction within three years. The remaining projects are considered "out projects" and would likely not be realized within eight years.

5.1.1 Chapel Annex

This $430,000 project would construct a religious education annex to the existing chapel (Building 423). As part of this project, Building 401 would be demolished to accommodate additional parking at the chapel. This project has been programmed for FY 2003 (USAF 2002a).

5.1.2 Bowling Center

MAFB-Gunter Annex is evaluating the feasibility of constructing a new bowling center at the northeast corner of Spaatz Street and Butler Avenue. A needs assessment has yet to be completed for this proposed project. As an "out project" this project is at least eight years from being realized (USAF 2002a).

5.1.3 Integrated Operational Support Facility

As part of the consolidation of the Standards Systems Group operations at MAFB-Gunter Annex, base planners propose construction of a 52,400 foot Integrated Operational Support Facility east of Building 888 and just south of Moore Drive. As part of the project, Moore Drive would be converted into a divided median boulevard with landscaped off-street parking. As an "out project" this project is at least eight years from being realized (USAF 2002a).

5.1.4 Enlisted Research Laboratory

This project constructs a new research laboratory as part of the Senior Non-Commissioned Officers Academy at MAFB-Gunter Annex. The facility would replace Building 1210 and be located in a vacant parcel on the south end of the installation just east of Building 1110. As an "out project" this project is at least eight years from being realized (USAF 2002a).

5.1.5 Army and Air Force Exchange Service Mini-Mall

This project involves constructing a new 18,981 square foot mini-mall to replace the existing shoppette (Building 820) and the Auto Pride gasoline sales kiosk (Building 835) at MAFB-Gunter Annex. The projected site for the planned mini-mall is a 5.4-acre site just east of the existing shoppette, bounded to the north by the commissary parking lot, to the west by Building 820, to the east by North Turner Boulevard, and to the south by Spaatz Street. As an "out project" this project is at least eight years from being realized.

5.2 CUMULATIVE EFFECTS ANALYSIS

5.2.1 Construction Phase

Construction associated with the proposed action is scheduled to occur in FY 2007. This will not impact construction of the Chapel which is scheduled for construction in FY 2003 or any of the other identified projects which are at least eight years from being realized.

5.2.2 Long-Term Operation

Operation of the facilities that are proposed to be constructed at MAFB-Gunter Annex are likely to have a cumulative impact on utility usage. Consideration should be given and plans developed at the regional and installation levels to address cumulative impacts of the increased demand for utilities and the requirements to expand and/or improve existing distribution systems. Because the proposed action results in no impact or minimal impact for the other addressed environmental issues it will not have a significant effect on the cumulative impact of those issues.

5.3 COMPATIBILITY OF THE PROPOSED ACTION WITH THE OBJECTIVES OF LAND USE PLANS, POLICIES AND CONTROLS

The proposed action is compatible with the community support land use zone of MAFB-Gunter Annex and would not impact the current or long-range planning goals influencing the local or regional communities. Furthermore, the proposed action would fully comply with applicable federal, state, and local plans, policies, and controls with respect to land use.

5.4 RELATIONSHIP BETWEEN THE SHORT-TERM USE OF THE ENVIRONMENT AND LONG-TERM PRODUCTIVITY

NEPA requires that environmental documentation include a statement on the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity. Overall, the long-term productivity of the environment would be maintained with the implementation of the proposed action or the no action alternative.

The proposed construction of the new fitness center would involve some minor short-term impacts associated with building site development and construction. All other impacts to the

built and natural environment are deemed minimal. Therefore, the long-term productivity of the environment would not be appreciably affected by the implementation of the proposed action.

5.5 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

NEPA also requires that an environmental analysis include identification of "any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented." Irreversible and irretrievable resource commitments are related to the use of nonrenewable resources and the effects thereof on consumption or destruction of a resource that could not be replaced in a reasonable period of time. The proposed construction of a new fitness center would result in few direct and indirect commitments of resources; these would be related mainly to the consumption of utilities (i.e. electricity, natural gas, and water).

Expenditures of electrical energy and other resources can be considered irreversible and, therefore, irretrievably committed to the proposed project. The new fitness center would include in the building design and overall operation, energy and water saving features that would minimize the use of these resources. With or without these features, however, the natural resources this demands would be relatively insignificant and not substantially different from the commitment of resources under the no action alternative.

SECTION 6 REFERENCES

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APPENDIX A

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